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ABSTRACT

Conduct problems represent a complex set of symptoms and can have a range of negative effects in many areas of a child's life, including ongoing development; family functioning; peer relationships; and learning. These problems generally appear during the preschool years and early identification and intervention are critical to their treatment. This book serves as a reference guide to assist mental health professionals to detect and treat some forms of conduct problems in children during their early years. The guidelines may also be helpful for parents and teachers working with children's behavior problems. The development of these guidelines is based on a multidisciplinary approach and principles outlined by the National Health and Medical Council in Australia. Following an introduction in chapter 1, chapter 2 includes classification of conduct problems and describes the course; outcomes; prevalence; and risk factors for conduct problems in children. Chapter 3 contains a discussion of the identification, assessment, and diagnosis of conduct problems in children. Chapter 4 considers the efficacy of the main psychological intervention in management of conduct problems along with a review of pharmacological management. Chapter 5 discusses emerging themes for future direction in early intervention. (Contains 371 references.) (JDM)

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Early intervention in conduct problems in children

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Clinical approaches to early intervention in child and adolescent mental health

Volume 3

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The Australian Early Intervention Network for Mental Health in Young People

**Clinical approaches to early intervention
in child and adolescent mental health**

Volume 3

Series editors:
Robert Kosky, Anne O'Hanlon, Graham Martin and Cathy Davis
The University of Adelaide and Flinders University of South Australia

Early intervention in conduct problems in children

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The Australian Early Intervention Network for Mental Health in Young People

2000

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The opinions expressed in this document are those of the authors and are not necessarily those of the Commonwealth Department of Health and Aged Care.

This document is designed to provide information to assist decision making and is based on the best information at the time of publication.

This document provides a general guide to appropriate practice, to be followed only subject to the individual professional's judgement in each individual case.

A copy of this book can be downloaded from the AusEinet website:
http://auseinet.flinders.edu.au

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Clinical approaches to early intervention in child and adolescent mental health

Series editors:
Robert Kosky, Anne O'Hanlon, Graham Martin and Cathy Davis
The University of Adelaide and Flinders University of South Australia

Foreword to series

There are now about three thousand people who form the Australian Early Intervention Network for Mental Health in Young People (AusEinet) developed since 1997. They include carers, consumers, mental health professionals, policy makers, teachers and others who are interested in the new developments in early intervention for the mental health of young people. The members of the network are linked by our website (http://auseinet.flinders.edu.au), our journal (AusEinetter), the seminars we held across Australia, the first International Conference held in Adelaide in 1999 and by the set of books and guides we have produced for them. The books have so far included two national stocktakes of prevention and early intervention programs in Australia, a comprehensive account of eight model early intervention projects which were subsidised by AusEinet and a general early intervention literature review. Details of these publications can be obtained from our website.

This current series deals with clinical approaches to early intervention for the mental health of young people. The AusEinet team asked some leading clinical researchers in Australia to review the evidence base for recent clinical approaches to early intervention in their particular fields of interest. Only a few mental health problems could be chosen to start the series. We are aware that there are research groups active in other areas and we hope to access their work at a later date.

We are also aware that few programs in the field have been well evaluated; certainly few reach Level I or II evidence, according to the standards recommended by the National Medical Health and Research Council in Australia (levels of evidence are discussed in the series volumes). Consequently, we asked groups to consult with clinical experts and consumers to develop a consensus view on the best approach to practice in early intervention in their fields.

The volumes so far created for this series include clinical approaches to attention deficit hyperactivity disorder in preschool aged children, anxiety disorders, conduct problems, the perinatal period, and psychological adjustment to chronic conditions. Details of these volumes are available from the AusEinet website. A guide for delinquency will also become available on our website. The National Health and Medical Research Council (http://www.health.gov.au/nmhrc) has produced guidelines on depression in young people aged 13 to 20 years. AusEinet may look at clinical approaches specifically for early intervention in depression in children as well as young people in the future. Guidelines for early psychosis are available through the Early Psychosis Prevention and Intervention Centre (http://home.vicnet.net.au/~eppic/).

The clinical approaches recommended by the authors of the volumes in the series are the responsibility of the authors and naturally reflect their particular interests and those of their expert advisors. While the approaches outlined in this series do not necessarily reflect our views, we consider that it is important to open up a forum for information on early intervention for mental health and to allow our network access to some of the most recent scientific and clinical knowledge in the field. We hope that this series will help bridge the gap between research and practice.

The Editors

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Chapter 1

Introduction

Background

This document is intended as a reference guide to assist mental health professionals to detect and treat some forms of conduct problems in children who are less than twelve years of age. The guidelines may also provide useful information for parents, community workers, teachers, lawyers and others interested in these problems in young people and in some of the ways that it might be possible to help them.

The development of these guidelines was based on the principles outlined by the National Health and Medical Research Council (NHMRC, 1995). The development of clinical guidelines is founded on the basic premise that the guidelines are based on the best available evidence. Additionally, a multidisciplinary approach in the development of the guidelines is a key principle. These guidelines for health professionals have been developed by a working party comprising representatives from psychology, child psychiatry and general medical practice.

Conduct problems represent a complex set of symptoms, having a range of negative effects in many areas including the child's ongoing development, family functioning, peer relationships and learning. Conduct problems also result in material costs to the mental health and criminal justice system. Childhood conduct problems typically have their first presentation during the preschool years; early identification and intervention is a critical issue in their management. The child is defined by their 'acting out' behaviours, so the problem with this group of disorders is associated less with recognition of the problem but perhaps more with setting up timely interventions to ameliorate problems earlier in their developmental progression.

It is hoped that these guidelines will assist the practitioner in the accurate identification and early management of the disorder. Ultimately, the aim of intervention is to reduce the accumulation of risk over time and increase those factors which promote child and family well being.

Rationale for early intervention

Policy makers and health professionals recognise the social and economic costs of conduct problems in young people and the potential for early intervention to ameliorate the sequelae of the disorder into adulthood. Recognising that at any one time, at least 10-15% of children are affected by mental health problems (Sanders, 1995), the Mental Health Promotion and Prevention National Action Plan (1999) identifies children as a priority group in its goal to reduce the sequelae (loss of health, well-being and social functioning) associated with the spectrum of conduct problems.

Disturbances of conduct and oppositional behaviour problems are common in childhood and adolescence (Anderson et al., 1987; Cohen, Kasen, Brook, & Struening, 1991; Rutter, Cox, Tupling, Berger & Yule, 1975). This class of disorders includes conduct disorder, oppositional defiant disorder and disruptive disorders (American Psychiatric Association [APA], 1994). These disorders range from a pattern of negativistic, defiant, disobedient, and hostile behaviour to a more severe pattern of behaviour involving the violation of social rules and the rights of others (APA, 1994).

Between 33% and 75% of all young children who are referred to mental health agencies are eventually diagnosed with disruptive behaviour disorder (Robins, 1981), making conduct problems one of the most frequent diagnoses in mental health facilities for children. The prevalence of conduct disorder has increased over recent years. Rates are higher in urban than rural settings, and higher for males than females (estimates range from 6% to 16% for males and 2% and 9% for females). Similar rates have been reported for oppositional defiant disorder, with estimates ranging from 2% to 16% of the population (Kazdin, 1987a).

Childhood disruptive behaviour disorders can lead to serious short- and long-term problems. Children with disruptive behaviour disorders often experience associated difficulties such as learning problems, particularly with reading (Sturge, 1982); low self-esteem and low frustration tolerance (APA, 1994); poor social skills and interpersonal relationships (Carlson, Lahey & Neeper, 1984) and depressive symptoms (Sanders, Dadds, Johnston & Cash, 1992). These children are at an increased risk not only of being abused by their parents (Kaplan & Pelcovitz, 1982) but also for developing later problems such as poor marital, social, and occupational adjustment (Kazdin, 1987a).

Childhood behaviour problems are also risk factors for the development of adult personality disorder, alcohol abuse, and other psychiatric disorders (Robins & Price, 1991; Rutter, 1989). In addition to personal costs, long-term disruptive behaviour disorders constitute a major social problem, being costly to society through the demands they place on mental health services, the criminal justice system, special education programs, and other social services.

Conduct problems represent a complex, multi-determined phenomenon and a myriad of child, family and community influences have been associated with its development (Offord, 1989). Given this level of complexity, there is considerable variation in clinical practice in relation to the assessment and treatment of conduct problems in children. Assessment procedures vary from the inclusion of a single informant, typically the parent, to a diagnostic assessment which includes parent, child and school-based reports. The current emphasis in treatment delivery is on the amelioration of established child behaviour problems using a clinical model. The treatment modalities used include cognitive-behavioural therapy, psychodynamically based interventions with the child and medication.

The development of clinical practice guidelines is a key strategy to bring about the implementation of effective early intervention strategies as the means of achieving these better health outcomes. To date, there are no Australian practice guidelines for the identification, assessment, diagnosis and early intervention of conduct problems in children. In the past decade or so, there has been an increase in scientific papers examining childhood conduct problems. This has yielded an accumulated body of work examining the role of relevant risk factors in the development of early onset conduct problems. Interventions that have proven most effective address variables that are known to increase the risk of the development of conduct problems. The guidelines presented in this document are intended to assist health professionals in making informed clinical decisions about the appropriate and effective management of children with conduct problems and their families.

Available data from well-controlled studies indicate that the optimal management of conduct problems in children may need to be based on an early intervention strategy, which emphasises the role of parent-child interaction factors in the development of conduct problems. The decision to move beyond parent-child interaction as the focus of treatment and include other treatment components (child-focused and school-based interventions) continues to be investigated in the literature in terms of additional therapeutic gains. The variability of assessment and treatment protocols in the management of conduct problems in children underscores the advantage of having guidelines which can integrate the options for assessment and treatment.

In summary, conduct problems in childhood:

- are complex, multi-determined problems affecting the functioning of the child, family and wider community;

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- are common in the community and in primary care and mental health settings;
- cause long-term morbidity and reduced quality of life;
- often precede alcohol and other serious substance abuse;
- place demands on mental health services so that these resources are insufficient to effectively manage the problems;
- are associated with varied clinical practice, often with the provision of secondary and tertiary level health care in response to more severe manifestations of the disorder;
- have been the subject of scientific research over the past two decades;
- require an integrated treatment approach, with an emphasis on early intervention, where specific treatment components are included in the management plan based on the known risk factors of each case.

Given the state of basic and applied research concerning the characteristic features and risk factors associated with conduct problems in young people, it is now feasible to offer guidelines on conduct problems in children. These guidelines are based on the extant scientific literature and are applicable to Australian conditions.

The guidelines

Aims

The primary aim of these guidelines is to assist practitioners in the early identification and effective management of conduct problems in children. It is hoped that by treating children early in the development of conduct problems, these guidelines have the potential to prevent the progress of more serious manifestations of the disorder in the later years. Ultimately, the aim of early identification and intervention of conduct problems is to alleviate the suffering of the child and family.

These guidelines will aim to:

- facilitate the identification of conduct problems in young children and the risk factors that influence its subsequent development;
- ensure that effective evidence-based interventions are put in place to produce therapeutic outcomes (in terms of symptom reduction and increased functioning);
- emphasise early intervention strategies.

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This publication comprises systematically developed statements, based on scientific evidence, concerning the effective management of conduct problems of young children. It is intended for health care practitioners engaged in the care of children with conduct problems. Interested practitioners may include general medical practitioners, mental health nurses and other nurses, occupational therapists, paediatricians, psychiatrists, psychologists and social workers. The guidelines may also serve as a useful resource for school counsellors, teachers, consumers and carers.

These guidelines are offered as a general guide to be followed only when subject to the health care professional's judgement in each individual case. They do not represent a definitive statement of the correct procedures to be followed in the management of conduct problems in young children.

Definition of terms

These guidelines address the identification, assessment, diagnosis, management and early intervention of conduct problems in young people aged between 18 months and 12 years. ***Identification*** means the process of detecting children who have conduct problems. This involves taking into account clinical symptoms, risk factors and known associated disorders. ***Assessment*** means the process beginning with the first contact with the child, parents and others (including siblings, teachers and peers) and continuing throughout the intervention. The major goals of assessment are diagnosis, choice of appropriate treatment, and evaluation of treatment effectiveness. ***Diagnosis*** is a decision based on the recognition of clinically relevant symptoms and signs and the exclusion of other conditions.

Management is the process beginning with initial contact and encompassing all therapeutic actions in relation to the child, their family and significant others. ***Early intervention*** is based on the recognition of early signs of disorder, in order to treat disorder early in its development and to minimise disability. ***Conduct problems*** include a spectrum of behaviour disorders which include oppositional defiant disorder and conduct disorder. ***Children*** refers to people aged between 18 months and 12 years.

How the guidelines were developed

Our Expert Advisory Panel included representatives from child psychiatry, child health, general medical practice, psychology and consumers. The general approach adopted was that recommended by the NHMRC in the first edition of the *Guidelines for the development and implementation of clinical practice guidelines* (NHMRC, 1995). Levels of evidence ratings are based on the adapted version of the US Preventive

Services Task Force rating scheme, which was developed into a six point rating system by the NHMRC (1995):

Level I	Evidence obtained from a systematic review of all relevant randomised controlled trials.
Level II	Evidence obtained from at least one properly designed randomised controlled trial.
Level III-1	Evidence obtained from well designed controlled trials without randomisation.
Level III-2	Evidence obtained from well-designed cohort or case-control analytic studies, preferably from more than one centre or research group.
Level III-3	Evidence obtained from multiple time series with or without the intervention. Dramatic results in uncontrolled experiments (such as the results of the introduction of penicillin treatment in the 1940's) could also be regarded as this type of evidence.
Level IV	Opinions of respected authorities, based on clinical experience, descriptive studies or reports of expert committees.

Overview of the guidelines

The guidelines are divided into several sections. Chapter Two includes classification of conduct problems and describes the course, outcomes, prevalence and risk factors for conduct problems in children. Chapter Three contains a discussion of the identification, assessment and diagnosis of conduct problems in children. The clinical interview is considered, along with questionnaires/rating scales, and direct observational procedures. The differential diagnosis of conduct problems is addressed, as is the identification and assessment of comorbidity.

Chapter Four considers the efficacy of the main three main psychological interventions in the management of conduct problems in children. Pharmacological management is briefly reviewed. The critical issue of early intervention is discussed as the prelude to the introduction of specific treatment strategies. In Chapter Five, emerging themes, challenges and future directions in early intervention in conduct problems are discussed.

Chapter 2

Conduct problems in children

The term 'conduct problem' refers to behaviours characteristic of disruptive behaviour disorders (APA, 1994). 'Conduct problem' is not used to refer to a specific diagnostic category. It encompasses oppositional behaviours, aggressive behaviours, and delinquent acts. Attention deficit and hyperactivity behaviours are closely related to conduct and oppositional disorders, and will be identified separately when discussed.

Conduct problems are a cluster of behaviours characterised by noncompliance, aggressive behaviour and violation of societal or familial rules (Dumas, 1989; McMahon & Wells, 1998). They appear to be becoming increasingly prevalent in modern western societies (Robins, 1986). Children with conduct problems may display behaviours which range from complaining, refusal to obey adult rules and ignoring of instructions, to lying, physical or verbal aggression, destructiveness, and criminal activities. This pattern has been referred to variously as 'disruptive', 'aggressive', 'antisocial', 'delinquent' or 'externalising'. The term 'conduct problems' may be broadly applied to encompass behaviours ranging from mild oppositional behaviour to delinquent acts. Dimensional and categorical systems are used in efforts to classify individual conduct problem behaviours.

Classification

Dimensional systems of classification

One system of classification of conduct problems conceptualises these behaviours as being continuously distributed along end-points of severity in the population. Various ways of describing this range of 'acting-out' behaviours have been proposed. Loeber and Schmaling (1985) have used a dimensional approach, which places conduct problems along a continuum of 'overt' and 'covert' behaviours. Overt behaviours are those in which the child is involved in direct confrontation or disruption of the environment (for example, acts of aggression, temper outbursts, argument, thwarting adult requests). Covert behaviours occur without awareness of the caretakers (for example, lying, stealing, fire-setting). In an extension of this study, Frick, Van Horn, Lahey, Christ, Loeber, Hart et al. (1993) proposed a second dimension, of 'destructive/non-destructive'. Both dimensions were used to derive four subtypes of conduct problem behaviour as set out in Table 1.

Table 1. A dimensional system for classifying conduct problem behaviours

Dimensions	Behaviours
I. Nondestructive/Overt	**Oppositional behaviour** *Temper* *Defiance* *Stubborness*
II. Destructive/Overt	**Aggression** *Bullying* *Cruelty* *Blaming others*
III. Nondestructive/Covert	**Status violations** *Truancy* *Runaway*
IV. Destructive/Covert	**Property violations** *Stealing* *Firesetting* *Vandalism*

However, Edelbrock (1985) conceptualises problem behaviours as a developmental progression through a sequence of four stages, described as: 'oppositional' *(e.g., argues, disobeys)*, then 'offensive' *(e.g., fights, swears, disobeys at school)* followed by 'aggressive' *(e.g., destroys, threatens)* and 'delinquent' *(e.g., steals outside home, vandalism, runs away)*. In general, behaviours proceed from overt to covert types of conduct behaviours; moving from within to outside the home. Conceptualising conduct problems as a developmental sequence of behaviours, provides a clear rationale for intervening at critical points in the development of the disorder.

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Categorical systems of classification

Another approach to classification is to create discreet categories of behaviour. Such a categorical system uses predefined criteria to classify symptoms into diagnostic categories. The standard categorical classification systems currently in use are the psychiatric systems of the Diagnostic and Statistical Manual of Mental Disorders (4th ed.) (DSM-IV) of the American Psychiatric Association (1994) and the International Classification of Mental and Behavioural Disorders (ICD-10) of the World Health Organisation (1993). The diagnostic categories relevant to the classification of conduct problems in children are Oppositional Defiant Disorder and Conduct Disorder. In the DSM-IV classification system, both Oppositional Defiant Disorder and Conduct Disorder are subsumed under 'Disorders Usually First Diagnosed in Infancy, Childhood and Adolescence'.

Oppositional Defiant Disorder refers to a pattern of negative, hostile and defiant behaviour that occurs frequently for a period of 6 months or more.

Conduct Disorder presents as a pattern of behaviour in which the rights of others, and family and community rules are violated and where this pattern of behaviour has been observed over a 6 to 12 month period.

Development and course of conduct problems

Age of onset

Research into the development of conduct problems has been conducted primarily with males in childhood and preadolescence. From this research, at least two developmental pathways have been identified.

The ***early-starter*** pathway (also known as 'early-onset', 'childhood-onset' or 'aggressive-versatile') refers to a developmental progression of conduct problems that have been evident from an early age (APA, 1994; Loeber, 1990; Patterson, Capaldi & Bank, 1991). Longitudinal studies reveal that most children enter the early-starter pathway before preschool (Loeber et al., 1993). For many early starters, conduct problem behaviours are consolidated during the early school years, and continuity of these problems into adolescence is associated with poor long term outcomes (McGee et al., 1990).

The ***late-starter*** children do not display oppositional behaviour in early childhood, but show conduct disordered behaviours such as lying, truancy, drug use and other delinquent activities in adolescence (McGee, Feehan, Williams & Anderson, 1992; McMahon, 1994). In a longitudinal study, Esser, Schmidt and Woerner (1990) reported that 40% of children diagnosed with Oppositional Defiant Disorder or Conduct Disorder at age 13 years, did not have a history of Oppositional Defiant

Disorder or Conduct Disorder at age 8 years. These children appear to be following this late starter pattern also called an 'adolescent-onset', or 'non-aggressive' developmental pathway (APA, 1994; Loeber, 1990; Patterson, de Baryshe & Ramsey, 1989).

The two pathway model has been subject to considerable research and has received widespread support. A three pathway model has also been proposed (Loeber et al., 1993), but it is not yet clear whether these represent separate developmental paths or discrete clusters of behaviour which occur at different ages.

Course

The ***early-starter*** pathway is characterised by considerable continuity of problem behaviours, and a developmental progression from less to more severe behaviour and from overt to covert behaviour (Loeber et al., 1993; McMahon, 1994; Moffitt, 1993). The development of early-starter conduct problems follows a pattern of diversification. Children add new conduct problems to their behavioural repertoire, and expand the settings in which these behaviours are displayed (Forehand & Wierson, 1993; Loeber, 1988).

Children following the early-starter pathway may display precursors of conduct problems in the post-natal period (Loeber, 1990). Such infants are often described as 'temperamentally difficult'. That is, they are more active, less sociable and more emotionally reactive than their 'less difficult' peers (Kazdin, 1987b; Prior, 1992).

Conduct problems may present through the toddler and preschool periods as non-compliance, temper tantrums and aggression. Child noncompliance is regarded as the key behaviour which "lays the necessary groundwork for subsequent problem behaviors" (Forehand & Wierson, 1993, p.128). It is hypothesised that children establish patterns of coercive interaction with adults in the home during this time (Patterson et al., 1991).

As children widen their social networks during the preschool and primary school years, these interaction patterns generalise to other relationships (Loeber, 1990). Consolidation of anti-social problems in the school environment is frequently associated with academic problems, rejection by non-problem peers, increasing association with a deviant peer group, and the emergence of covert conduct behaviours such as lying, stealing and truancy (Bierman & Smoot, 1991; Loeber, 1988; Patterson et al., 1991). Children whose conduct problems persist into middle adolescence are also characterised by marked lack of social competence (McGee et.al., 1990) and reduced likelihood of the desistance or cessation of these problems (Loeber, 1990).

Late-starter conduct problems are characterised by behaviours such as theft, lying, stealing, and substance abuse, but aggression is less common. Girls appear more likely to follow a late-starter than early-starter pathway (Loeber, 1990; McGee et al., 1990).

Compared with early-starters, late-starter adolescents tend to have better relationships with parents and peers. They may experience poor academic achievement but this is typically not associated with learning difficulties or with hyperactivity (Loeber, 1990). Late-starters have a better prognosis than early-starters(Loeber, 1990; McMahon, 1994; Patterson et al., 1989). Compared with early-starters, they display less severe and less diversified problem behaviours, and have better social skills. These may provide late-starters with sufficient ability and opportunity for subsequent re-integration with non-deviant peer groups. Over time, late-starters are more likely to desist their problem behaviours, and are less likely to develop Antisocial Personality Disorder (ASPD) in adulthood when compared to early-starters (APA, 1994; Loeber, 1990).

The primary settings for the development of conduct problems may differ for early- and late-starters. It has been speculated by Patterson et al. (1989) that early-starters receive 'training' in problem behaviour within the home from a young age. For late-starters, problem behaviour is believed to occur within the peer group during adolescence. The onset of late-starter conduct problems may be associated with family stressors such as divorce or unemployment which cause disruption to key family management practices (Webster-Stratton, 1990). This disruption allows the youngster the opportunity to associate with deviant peer groups, who in turn provide training in delinquency (Patterson et al., 1991).

Outcome

Rates of conduct and oppositional problems peak in middle adolescence, with a subsequent trend for gradual desistance with age (Velez, Johnson & Cohen, 1989). Most children's behaviour progresses to a certain level of dysfunction and then plateaus or decreases (Loeber, 1990). In a large longitudinal study of children initially aged 4 to 12 years, Verhulst, Koot & Berden et al. (1990) found that rates of aggressive and externalising behaviours decreased over a four-year period for children of all ages.

Progression of conduct problems into adulthood is more likely for children with a greater diversity of behavioural symptoms, manifest across a greater variety of settings, and with an earlier onset (Loeber, 1982; Robins, 1991). For example, Robins (1991) reported that only 0.9% of children who displayed relatively few conduct problems at age 12 years, developed ASPD, while 71% of those who displayed severe wide-ranging problems at age six years, met later diagnostic criteria for ASPD. Of those whose problems persist, not all have serious forms of conduct problems in adulthood (Dumas, 1989; Patterson et al., 1989).

Persistent conduct problems represent a risk for the development of a variety of problems in adolescence (e.g. peer rejection, poor school performance, engagement in risk behaviours, increased substance abuse and delinquency) and adulthood (e.g. restricted employment opportunities, relationship difficulties, criminal activity and increased risk of general psychopathology) (Fergusson, Horwood, & Lynskey, 1993b, 1994; Hinshaw, 1992; Kazdin, 1987a; McMahon & Wells, 1998; Robins 1966; Robins & Price, 1991; Rutter, 1989; Zoccolillo et al., 1992).

Childhood conduct problems are associated with substantial long-term costs for the individual, affecting multiple areas of functioning throughout a major portion of the lifespan. Conduct problems are also associated with high use of clinical, educational, welfare and justice services. An estimated one-third to one-half of referrals to child and adolescent mental health services are for identified conduct problems (Dumas, 1989; McConaughy & Achenbach, 1994). These problems clearly present a substantial cost to the young person, family, friends and society in general.

Prevalence

The prevalence of oppositional defiant disorder and conduct disorder among non-clinical samples of children ranges between 6%-10% and 2%-9%, respectively (Fergusson, Horwood & Lynskey, 1993a; McConaughy & Achenbach, 1994; Robins, 1991; Zubrick et al., 1995). The prevalence rates vary as a function of the child's age, gender and the type of conduct problem behaviour displayed. Epidemiological studies of community samples of school age youth indicate higher prevalence rates of conduct problems for the 12-16 year age group (7%) compared with the 4-11 year age group (4%). These behaviour problems are typically more prevalent in boys than girls (Robins, 1986; Zoccolillo, 1993). The gender differences decrease in adolescence with higher numbers of girls engaging in covert conduct problem behaviours.

At the individual level, childhood conduct problems are quite stable (Campbell, 1995; Esser, Schmidt & Woerner, 1990; Verhulst, Koot, & Berden, 1990). A substantial proportion of children with conduct problems continue to display clinically significant conduct problems in adulthood, or are impaired in some life domains (Robins, 1978; West & Farrington, 1973; Zoccolillo, Pickles, Quinton & Rutter, 1992). For example, Zoccolillo et al. (1992) reported that three-quarters of those with severe conduct problems in childhood developed pervasive and persistent social maladjustment in adulthood.

Severe conduct problems often co-occur with other individual problems (Fergusson et al., 1993a; McConaughy & Achenbach, 1994; Verhulst & van der Ende, 1993). For example, Anderson, Williams, McGee and Silva (1987) found that nearly 50% of 11 year olds with Oppositional Defiant Disorder or Conduct Disorder, also met diagnostic criteria for attention deficit disorder, anxiety/phobic disorders, or depression/dysthymia. In light of the constellation of morbidity associated with conduct problems, it is not surprising that adolescents and adults with conduct problems have an increased risk of early mortality, particularly sudden violent death from substance abuse, accidents, suicides, and homicides (Rydelius, 1988).

Risk and protective factors

Risk factors can be defined as those characteristics, variables or hazards that, if present for a given individual, make it more likely that this individual, rather than someone selected at random from the general population, will develop a disorder. Risk factors are usually present before the disorder emerges. The aetiological significance of a particular risk factor needs to be established by research indicating that there is a statistical association between the risk factor and the incidence/prevalence of a disorder. It is also important to establish that the risk factor predates the disorder and that there is an association between the strength of the risk factor and the severity of the disorder (dosage effect). It is important that the process by which the factor is linked to the disorder can be described (Mrazek & Haggerty, 1994, p.127).

The strongest evidence that a factor contains a risk for the disorder results from experimental studies where the risk factor itself is manipulated, that is, where at-risk groups are exposed or not exposed to the particular risk factor. Depending on the use of a random allocation design, this type of study is rated as either level II or level III-1. Studies utilising longitudinal or cohort designs provide the next strongest evidence, constituting level III-2 evidence. Clinical observation studies or studies based on a description of referred groups are rated as level III-3 and level IV respectively.

The evidence derived from longitudinal studies is considered more robust than cross-sectional studies. Cross-sectional studies, in turn, are rated as providing stronger evidence than clinical observational studies. Risk factors that are consistently shown to be associated with the developmental progression of a disorder across a number of varied studies are considered more robust than risk factors based on very little empirical investigation or where there is little convergence of results between studies.

This section presents the evidence from studies (both primary and secondary sources), which have investigated the range of child, family, and broader contextual factors contributing to the development of childhood conduct problems over time. There is clear epidemiological evidence that conduct problems are multi-determined, with risk and protective factors spanning individual child characteristics, family, social and environmental factors.

Inheritance

It is likely that many conduct problems have an inherited basis in some people. Children of parents who manifest adult signs of conduct problems are at greater risk of developing the disorder than peers with no family history of conduct problems (Fergusson et al., 1994; Kazdin, 1987b; West & Prinz, 1987). Indeed, the presence of conduct problems in grandparents has been associated with an increased risk of disorder in children (Huesmann, Eron, Lefkowitz, & Walder, 1984).

Evidence for a genetic mode of inheritance is weaker. There is evidence of genetic links from studies of adopted-away children (Cadoret, 1978; Jary & Stewart, 1985). It has been suggested that genetic vulnerability for conduct problems may take the form of a weak behavioural inhibition system, abnormal hormonal patterns or greater susceptibility to the negative impact of stress (Lytton, 1990).

Temperament

Children who develop conduct problems may have a temperament which places them at risk. Children who are regarded as temperamentally 'difficult' display negative emotionality, high activity levels, and low sociability (Prior, 1992). Compared with their peers, temperamentally difficult infants are more likely to display behavioural and emotional problems (Caspi, Henry, McGee, Moffitt & Silva, 1995; Earls & Jung, 1987; Prior, Smart, Sanson & Oberklaid, 1993; Thomas, & Chess, 1982). A child's temperament may place that child at risk by disrupting his or her interactions with family members (Kazdin, 1987b).

Temperamentally difficult infants place demands on parenting because of their excessive crying, high activity levels, and problems with settling into regular sleeping and feeding patterns (Prior, 1992). In support of this hypothesis, research suggests that temperament best predicts subsequent behaviour problems when considered in combination with other risk factors such as family interactions (Pettit & Bates, 1989; Prior, 1992). However, child temperament may not be a discrete individual characteristic. A difficult temperament may be part of the developmental continuum representing an early manifestation of later conduct problems (Prior, 1992).

Gender

Gender is considered one of the most robust risk factors for conduct problems (Robins, 1991). Boys are more likely than girls to develop conduct problems, with a ratio of 3 to 4 boys to every girl with clinically significant behaviour problems (Anderson, et al., 1987; Offord et al., 1987; Prior, et al., 1993). Gender differences in aggression have been reported in children as young as 2 to 3 years. Boys become increasingly more aggressive than girls throughout the primary school period (Prior et al., 1993). Gender differences persist during early and middle school years, but start to diminish in adolescence (Cohen et al., 1993; Esser et al., 1990; Fergusson et al., 1993a; Offord et al., 1987). Girls develop late-onset, non-aggressive conduct problems at a greater rate than do boys (McGee et al., 1990; McGee et al., 1992).

Gender-related differences in the prevalence of behaviour problems may partly reflect a biologically based predisposition for boys to react to stressful situations with conduct disordered behaviour (Grych & Fincham, 1990; Lytton, 1990). Differences are also likely to be related to gender-biased parenting practices that are common in Western cultures. Parents may tend to use more physical discipline with boys, demonstrate more warmth toward girls and show greater prohibition of aggressive behaviour from girls (Lytton & Romney, 1991). In addition, rough play and fighting are more often regarded as normal for boys than girls. Parents may model aggressive behaviour to sons, be more accepting of sons' aggression and more actively encourage cooperative, nurturing behaviours from girls (Zahn-Waxler, 1993; Zoccolillo, 1993).

Social skills

Conduct disordered behaviour takes place within a social context. Many children who display conduct problems lack the skills necessary for effective integration with a non-deviant peer group (Dodge, 1983; Dumas, 1989). Observational studies reveal that children with conduct problems are more likely than their peers to respond to others in an aggressive or hostile manner and lack the ability to promote positive social interactions (Dumas, 1989; Kazdin, 1987a). Social skill deficits may become more pronounced with age and increasingly debilitating as children face more socially complex and demanding situations (Prior, et al., 1993).

Social competence may be an important determinant of peer rejection. Aggressive children, with poor social skills, are typically rejected by peers (Newcomb et al., 1993). In contrast, children who are aggressive, but who also display a high degree of social competence, are more ambiguous in peer ratings of popularity. These children were reported to provoke the anger of their peers, but also amused them and were not uniformly rejected (Newcomb, Bukowski & Pattee, 1993; Coie, Dodge, & Kupersmidt, 1990).

The extent to which a child is rejected by his or her peers may determine the continuity of behaviour problems (McGee et al., 1992). Peer groups provide an important learning environment. Rejected youngsters with conduct problems and a limited social skills repertoire may miss key opportunities for learning appropriate social behaviour from peers (Patterson et al., 1991). Peer rejection is relatively stable over time and is predictive of ongoing social difficulties, association with other deviant peers, school failure and the future development of more severe conduct problems (Coie, Lochman, Terry, & Hyman, 1992; Webster-Stratton, 1991).

Cognitive skills

Cognitive skills and processes influence behaviour. Problem-solving deficits are common in adolescent and preadolescent boys with conduct problems (Evans & Short, 1991; Lochman & Dodge, 1994; Lochman & Lampron, 1986). These boys are less able to generate non-aggressive responses to social situations or take the perspective of others (Dodge, 1993). Independent of intelligence or verbal reasoning skills, boys with conduct disorder generate significantly fewer effective alternative responses to hypothetical stories than non-conduct disordered boys (Evans & Short, 1991) and are poor at attending to and recalling relevant social cues (Lochman & Dodge, 1994). These skill deficits may be associated with boys being more likely to resort to aggressive or antagonistic behaviours.

There is considerable evidence that children with conduct problems hold distorted cognitions about interpersonal interactions, which may contribute to their aggressiveness (Dodge, 1985, 1993; Lochman & Dodge, 1994). When describing themselves, boys with conduct problems have lower self-worth and are more likely to evaluate aggression and its potential outcomes positively. They are less likely to accurately perceive their own behaviour as aggressive or angry, and place greater value on hostile or competitive goals than non-problem peers (Lochman & Dodge, 1994; Lochman & Lampron, 1986; Dodge, 1993). These children also hold distorted views of peers. They are more likely than non-conduct disordered boys to perceive hostility in the actions of others (Dodge, 1993), which may increase their own levels of interpersonal aggression (Dumas, 1989). Social-cognitive distortions are also demonstrated by conduct problem boys in the family context (MacKinnon-Lewis, Lamb, Arbuckle, Baradaran & Volling, 1992; Sanders, Dadds, Johnston & Cash, 1992).

While social-cognitive distortions may arise from children's actual social experiences, there is some evidence that cognitive biases are also causally related to conduct problems. Hostile attributions predict the later development of conduct problems, and experimental manipulation to reduce attributional bias can result in reductions in aggression (Dodge, 1993).

Parental coerciveness

Parents of conduct problem children are more coercive and use harsher forms of discipline than parents of non-problem children (Kazdin, 1987b). Parents of children with conduct problems frequently use aversive verbal and physical behaviour when interacting with their children and this behaviour may occur irrespective of the child's behaviour (Patterson, 1982; Patterson et al., 1991). These parents are more likely to initiate conflict with children, to respond negatively to children's behaviour and to continue conflict, than parents of non-problem children (Patterson, 1982; Snyder & Patterson, 1995). Children show similar tendencies when interacting with their parents, displaying higher rates of initiation, continuation and escalation of conflict, when compared with non-problem children (Patterson, 1982).

Parents may provide children with a model for learning conduct-disordered behaviour. However, there is considerable evidence that the nature of parent-child interactions fosters the development of child conduct problems beyond the effects of modelling alone. The mechanisms for this have been outlined in the coercive escalation model of family interactions (Patterson, 1982, 1986; Patterson et al., 1989, Patterson et al., 1991; Snyder & Patterson, 1995). This model has been the subject of considerable empirical scrutiny and has proved to be robust. The model holds that children of coercive parents learn to use a range of aggressive, noncompliant, defiant behaviours to terminate parents' aversive behaviours and to coerce reinforcement from parents (Snyder & Patterson, 1995). These behaviours enable the child to survive in a highly aversive and unpredictable family environment (Patterson, 1986). Coercive behaviours are maintained for both children and parents by patterns of mutual negative reinforcement (Snyder & Patterson, 1995; Wahler, 1976).

Over time, children and parents gradually escalate their conduct-disordered behaviours. The rate and intensity of the behaviours increase, sometimes eventuating in physical aggression (Patterson, 1982; Wahler, 1976). Both parent and child become 'aversion oriented', responding to each other's aversive behaviour and neglecting non-aversive behaviour (Wahler, 1976). While these patterns of coercive parent-child interactions occur to some extent in all families, observations reveal they occur significantly more often in the families of conduct disordered children (Patterson, 1982).

Parental responsiveness

Another parenting dimension related to child behavioural outcomes concerns the quality of the parent-child relationship, which may be described in terms of parents' abilities to be aware of, nurturant and responsive to their children (Kazdin, 1987b). The concept of responsiveness used in this text includes both nurturing (e.g. parental warmth) and controlling aspects (e.g. limit setting). Responsiveness consists of being physically and emotionally available to children, and is reflected by behaviours such as expressing interest in the child's daily activities, providing constructive assistance and supervision and acknowledging the child's accomplishments.

Parental responsiveness also concerns the provision and enforcement of developmentally appropriate rules, with effective use of fair and reasonable methods of discipline. These patterns of parenting have been referred to variously as authoritative parenting, parental acceptance, synchrony and parental warmth (Baumrind, 1973; Maccoby, 1992; Rothbaum & Weisz, 1994). They are believed to be a necessary precondition for teaching children appropriate prosocial skills (Patterson, 1982).

Responsive, nurturant parenting has been consistently related to positive developmental outcomes for children regardless of broader family and social conditions (Pettit & Bates, 1989; Phillips, Nicholson, & Peterson, submitted). A meta-analysis of cross-sectional research conducted with parents of non-clinic children indicates that parental responsiveness is associated with low levels of externalising behaviour problems (Rothbaum & Weisz, 1994). The effects were found to be greater for boys than girls, for mother's behaviour rather than father's, and the impact was most obvious when children were in later school age rather than younger.

Longitudinal research reveals that measures of parental responsiveness have good predictive power over periods of up to 10 years (Bradley, Caldwell & Rock, 1988; Fergusson et al., 1994; Pettit & Bates, 1989). Poor maternal responsiveness during infancy significantly predicts subsequent child aggressive behaviour during preschool (Pettit & Bates, 1989) and at age 10 (Bradley et al., 1988). Maternal lack of emotional responsiveness during preschool years is associated with a three-fold increase in risk that a child will display severe conduct problems at age five years (Fergusson et al., 1994). Responsive parenting appears to be functionally related to child conduct problems. Manipulation of parental behaviour impacts on child behaviour, with experimental increases in responsiveness, reliably followed by decreases in child noncompliance (Rothbaum & Weisz, 1994).

Parent-child interaction patterns between parent and child can be affected by a variety of other factors. These include contextual and setting factors such as family socioeconomic status, parental divorce and parental psychopathology. These factors have been termed 'disruptors' by Patterson et al. (1989) because it is believed that they 'disrupt' the parenting process, which in turn impacts on child behaviour. Child behaviour problems are related to specific environmental factors (notably the quality of the home environment, parenting behaviours, availability of social support networks, socioeconomic status). This association does not imply a causal direction. However, for the purpose of the present discussion, consideration is given to how contextual factors exacerbate negative parent-child interactions.

Attachment processes

A considerable body of theoretical work and an increasing body of prospective empirical studies demonstrates that the quality of the parent-child relationship in infancy and toddlerhood influences the child's behavioural adjustment in the pre-adolescent period (Bowlby, 1988; Greenberg & Speltz, 1988; Greenberg, Speltz & DeKlyen, 1993; Sroufe, 1983). The assessment paradigm, initially conceptualised by Bowlby (1982, 1973) and later operationalised by Ainsworth et al. (1978) and George, Kaplan, and Main (1985), provides a theoretical framework for describing variations in the quality of the parent-child relationship and predicting later child behavioural adjustment.

The concept of attachment refers to the reciprocal bonds that develop between child and parent from infancy. It encapsulates the essential care-seeking behaviour of an infant to the parent and the complementary caregiving response of the parent to the infant. The attachment relationship is operationalised in terms of specific infant care-seeking behaviours. Attachment behaviour refers to the infant's proximity seeking and contact with the caregiver and exploring away from this so-called 'secure base' (Bowlby, 1988). The caregiver's response to these infant behaviours over time determines the quality of the infant's attachment to the caregiver. Particular situations are thought to activate care-seeking, as described by Bowlby (1988 p.3) "anything that frightens a child or signals that he or she is tired or unwell". Attachment theory proposes that through these daily transactions with the caregiver, "children are acquiring considerable knowledge of their immediate world and that during subsequent years this knowledge is best regarded as becoming organised in the form of internal working models..." (Bowlby, 1988 p.4). The core aspect of the internal working model concerns information about how they and the caregiver are likely to respond to each other as "environmental and other conditions change" (Bowlby, 1988 p.4).

As outlined by Bowlby (1988), three principal patterns of attachment behaviour have been derived from laboratory observations using the 'Strange Situation', a measure of infant behaviours during separation/reunion with the caregiver (Ainsworth, Blehar, Waters et al., 1978). ***Secure attachment*** is characterised by infant behaviours of proximity seeking and exploration from the caregiver and is promoted by a parent who displays warmth, contingent responsiveness to infant signals of protection, comfort or assistance and is readily available. ***Anxious-resistant attachment*** is characterised by infant behaviours of clinging behaviour and anxiety about exploring away from the parent. This pattern develops in the context of a parent whose availability and contingent responsiveness is unpredictable and who uses threats of abandonment as a means of exerting control over the child. ***Anxious-avoidant behaviour*** is characterised by an infant who avoids contact with the caregiver at separation and reunion. This pattern develops in the context of a parent who is predicatably unavailable and unresponsive.

Attachment theory proposes several key hypotheses about this specific relationship, foremost of which is that "variations in the way these bonds develop and become organised during the infancy and childhood of different individuals are major determinants of whether a person grows to be mentally healthy" (Bowlby, 1988 p.2). Prospective studies examining infant attachment in the context of other risk variables and later behavioural adjustment have recently been undertaken. Greenberg & Speltz (1988) summarise the findings from concurrent studies which have reported that secure attachment in the first two years of life is concurrently related to sociability, compliance with parents, and more effective emotional regulation. In contrast, children with insecure attachment patterns (i.e. 'anxious-resistant' and 'anxious-avoidant' attachment classifications) prior to the age of two are more likely to display lower sociability, anger, poorer behavioural self-control and peer relations (Greenberg, Speltz & DeKlyen, 1993). The Minnesota Mother-Child Project (Egeland & Sroufe, 1981; Erikson, Sroufe & Egeland, 1985; Sroufe, 1983) prospectively investigated attachment status of infants at 12 and 18 months and later behaviour in a high-risk sample. Results indicated that infants classified as 'anxious-resistant' or 'anxious-avoidant' were significantly more likely to display poor peer relations and aggression than children classified as secure.

Greenberg, Speltz and DeKlyen (1993) consider the quality of attachment in infancy and toddlerhood to be a key risk factor, amongst child biological, parenting and family ecology, in the development of disruptive behaviour in preschool and later school years. The question, however, of the mechanism by which attachment processes influence the development of disruptive behaviour disorders in interaction with other central risk factors and the key question of whether attachment is a distinct construct to parent management processes have only recently received recent empirical attention.

Parental psychopathology

Parents of children with conduct problems are more likely to have significant psychopathology than parents of non-problem children (Reeves, Werry, Elkind, & Zametkin, 1987; Stanger, McConaughy & Achenbach, 1992). They also have a different constellation of psychopathology from parents of children with other clinical problems (Phares & Compas, 1992). Fathers of children with conduct disorder have increased rates of antisocial personality disorder, substance abuse, and depression. Mothers of children with conduct disorder have increased rates of antisocial personality disorder and depression when compared to parents of non-problem children, or parents of other clinically referred children (Dean & Jacobson, 1982; Jary & Stewart, 1985; Lahey et al., 1988; Reeves, et al., 1987).

There are several potential explanations for the observed links between parental antisocial personality, parental criminality, and child conduct problems. These include a possible genetic component, the effects of modelling, or a tendency for parents with antisocial problems to employ coercive parenting practices. Alternatively, parental psychopathology may be associated with other risk factors such as low socioeconomic status or interparental conflict (Miller, Cowan, Pape et al., 1993).

Depression, particularly in mothers, has been found to be consistently associated with child conduct problems (Gelfand & Teti, 1990; Hops, 1992; Phares & Compas, 1992). Children and adolescents of depressed mothers are more likely than their peers to suffer from a range of behavioural or emotional problems, with disruptive behaviour disorders being common (Billings & Moos, 1983; Offord, Boyle & Racine, 1989; Orvaschel, Walsh-Allis, & Ye, 1988). Parental depression may impact on child outcomes as a result of its disruption of maternal parenting practices (Brody & Forehand, 1988; Harnish, Dodge & Valente, 1995).

It has been suggested that parental irritability, distractability, and lack of concentration contribute to inconsistent and coercive parenting for mildly depressed parents, while reduced energy levels impair the child-rearing activities of more severely depressed parents (Forehand, Thomas, Wierson, Brody & Fauber, 1990). In general, depressed mothers are more negative in their interactions with children than non-depressed mothers. They appear to use more physical punishment, are more verbally aversive, monitor and supervise their children's activities less effectively, engage in fewer affectionate interactions with their children, and respond to their children with less warmth (Braswell, 1991; Gelfand & Teti, 1990; Hops, 1992; McMahon & Wells, 1998; Webster-Stratton, 1988). These patterns may be due to depression causing negative perceptions of the child's behaviour (Brody & Forehand, 1988)

Evidence of a relationship between parental depression and child behaviour problems has been less consistent for fathers than mothers. While some researchers have found links between father's depression, poor parenting, and child behaviour (Christensen, Phillips, Glasgow & Johnson, 1983; Miller et al., 1993), others have not

(Forehand, Long, Brody and Fauber, 1986). Further research is required to clarify the circumstances under which paternal mood affects the quality of parenting and child behaviour.

Parents' cognitions

Cognitive biases have been found to be associated with the use of specific parenting behaviours which maintain child behaviour problems (Brody & Forehand, 1988; MacKinnon-Lewis et al., 1992). For example, mothers of conduct problem children are more likely to attribute defiant intent to their children's behaviour than mothers of non-problem children (Strassberg, 1995). Maternal perceptions of child hostile intent predict observed maternal negativity and coerciveness when completing play activities with school-age sons (MacKinnon-Lewis et al., 1992). Thus, cognitive distortions may promote coercive exchanges between mother and child, and increase the child's risk for conduct problems.

The extent to which parents are able to attend to their child's behaviour may be associated with child behaviour problems. Dysfunctional parenting comprises deficits in a parent's capacity to attend to their children's behaviour. It has been suggested that dysfunctional parenting may represent an attention deficit on the part of the parent. Wahler and Dumas (1989) argue that parents may not always lack effective parenting skills, nor hold overly negative perceptions of their child's behaviour. Rather, parenting is a complex task, which demands attention and concentration. In order to raise children most effectively, parents are required to track their child's behaviour, the environmental factors which influence the child, and respond appropriately. This is not always possible. Stress limits the attention that can be paid to any given task, including the attention parents pay to their children. Thus, stress-induced attention problems may disrupt parenting and increase a child's risk of developing behaviour problems.

Family characteristics

A variety of family factors have been consistently identified as predictors of child behaviour problems. These include the amount of conflict in the child's home, whether the child was born to a single mother family, and changes in parents' marital status (Fergusson, Horwood & Lawton, 1990; Fergusson et al., 1994; Hetherington, Stanley-Hagan & Anderson, 1989; Nicholson, Fergusson & Horwood, 1999; Stanger et al., 1992).

Interparental conflict: Interparental conflict is a significant predictor of antisocial behaviour in children (Loeber & Stouthamer-Loeber, 1986; Rutter, 1985; Stanger et al., 1992). For example, Forehand, Long, Faust et al. (1987) reported higher conduct problem scores for adolescent boys from high conflict families compared to boys from low conflict families, on the basis of self-, mother- and teacher-reports. In a review of research in this area, Grych and Fincham (1990) concluded that a modest relationship between parental conflict and child conduct problems is evident. This relationship has been found consistently for divorced and intact families, clinical samples and for children of all ages (Hetherington, Cox & Cox, 1982; Peterson & Zill, 1986).

A dose-response relationship exists between child adjustment and the severity of interparental conflict. Children who are exposed to conflict which is more frequent, more intense, and which is overt rather than covert, tend to display more adjustment problems (Camara & Resnick, 1989; Emery, 1982; Grych & Fincham, 1990; Reid & Crisafulli, 1990). These problems may take the form of externalising problems (e.g., oppositional or conduct problems) or internalising problems (e.g. anxiety, depression, somatic complaints) or decreased social problem-solving skills (Grych & Fincham, 1990; Goodman, Barfoot, Frye & Bell, 1999).

Investigations of the relationship between gender, marital conflict and child behaviour problems have produced mixed results. While there appears a clear, consistent trend for interparental conflict to be related to conduct problems for boys, the evidence for girls is equivocal (Emery, 1982; Grych & Fincham, 1990; Reid & Crisafulli, 1990; Zaslow, 1989). In their qualitative review, Grych and Fincham (1990) concluded that marital conflict appears to be related to externalising problems in boys and internalising problems in girls, while overt conflict is related to both externalising and internalising problems, regardless of child gender. In contrast, Reid and Crisafulli (1990) concluded from a meta-analysis of the marital discord and child behaviour research, that there is no conclusive evidence that marital discord impacts on the behaviour of girls. Discrepant results and interpretations may arise from confounding factors, such as failure to account for post-divorce family structure (i.e., stable single parent or stepfamily) (Zaslow, 1989).

Several mechanisms may account for the impact of interparental conflict on children (Emery, 1982; Grych & Fincham, 1990). Interparental conflict may have a direct impact on child behaviour through the modelling of aggression in the home. Research indicates that even children as young as two years of age show increased aggression toward playmates after viewing inter-adult aggression, with higher levels of aggression obtained by repeated exposure (Cummings, Iannotti & Zahn-Waxler, 1985). Modelling of conflict may also affect children's perceptions of the acceptability of aggression and coerciveness (Dadds, Sheffield & Holbeck, 1990). Alternatively, exposure to conflict is frequently distressing for young children

(Cummings, Zahn-Waxler & Radke-Yarrow, 1981). Conflict may act as an intense stressor, the impact of which is expressed according to the child's predisposition (Grych & Fincham, 1990).

Interparental conflict may also impact on children by disrupting parenting (Forgatch, Patterson & Skinner, 1988; Patterson et al., 1989; Webster-Stratton, 1990). A number of studies have found support for a relationship between marital conflict and parental withdrawal, negativity and coerciveness (Fauber, Forehand, Thomas & Wierson, 1990; Jouriles, Pfiffner, & O'Leary, 1988; Miller et al., 1993; Webster-Stratton, 1989). In contrast, a good marital relationship may act as buffer, protecting the quality of parenting from the potential negative influences. Positive, affectionate marital relationships consistently predict maternal and paternal warmth and reduced risks of behaviour problems for preschool and adolescent children (Miller et al., 1993). Even marital quality and conflict as measured before the child's birth have been found to be predictive of parent ratings of child adjustment 3-5 years later (Howes & Markman, 1989).

Family structure and stability: Compared with children from intact two-parent families, children who are born into single-parent households, or who experience parental separation or remarriage, are at greater risk of a variety of physical health and mental health problems, including conduct problems (Bray, 1988; Fergusson et al., 1990, 1994; Stanger et al., 1992; Wadsworth, Burnell, Taylor, & Butler, 1983, 1985; Zill, 1988). For example, exposure to changes in family structure, and life in a non-traditional (single parent or step-parent) family during preschool and primary school years were associated with a three-fold to seven-fold increase in risk of developing pervasive conduct problems by middle adolescence (Fergusson et al., 1994).

Initially, it was hypothesised that father absence and the trauma surrounding parental divorce were the principle causes of poor child adjustment in non-traditional families. Underlying family processes, disruptions to parent-child relationships, changes in parental mood, and socioeconomic conditions associated with family structure, account for the higher rates of child behaviour problems (Emery, 1982; Rutter, 1985). For example, interparental conflict and deterioration in parenting which occur prior to and following parental separation, predict child behaviour problems more accurately than family structure or father absence (Rutter, 1985; Wallerstein & Kelly, 1980). It has become apparent that family interactional processes in single parent and stepparent families differ from the processes observed in intact two-parent families (Lawton & Sanders, 1994; Patterson & Forgatch, 1990a, 1990b). However, research is still lacking, and the effects of changes in these family structures remain poorly understood.

Stress

High levels of family life events are associated with greater risk for child disorder generally, and with oppositional behaviour problems specifically (Bird, Gould, Yager, Staghezza, & Canino, 1989; Costello, 1989). Poor child adjustment is prospectively predicted by both parent and child ratings of children's experiences of stressful life events (Berden, Althaus & Verhulst, 1990; Esser et al., 1990; Stanger et al., 1992). In addition, parental experience of stress is related to concurrent child behaviour problems (Patterson & Forgatch, 1990a; Phares & Compas, 1992). One way that stress may impact on child behaviour is by disrupting parenting. Research has revealed that negative life events are associated with increases in parental irritability and a deterioration of parenting practices (Wahler & Dumas, 1984; Webster-Stratton, 1990). In addition, specific stressors affect parenting. For example, paternal unemployment has been reported to be related to increased negativity and pessimism in fathers, and an associated deterioration in the father-child relationship (McLoyd, 1989).

The cognitive impairments, which frequently accompany severe stress, may account for the negative impact stress has on parenting practices. Stress is often associated with poor concentration, lack of attention to detail and limited problem solving skills (Wahler & Dumas, 1984). These difficulties may make it hard for parents to adequately attend to children's behaviour, leading to ineffective monitoring and supervision, and erratic responding to misbehaviour.

Social support and social isolation

Social support has been regarded as a protective factor against a variety of negative influences on the individual, including protection against the development of child behaviour problems (Billings & Moos, 1983; Webster-Stratton, 1989). Children of depressed mothers from families with high social support show less dysfunctional behaviour than children of depressed mothers with average levels of support (Billings & Moos, 1983). Social support may impact on child behaviour by enabling maintenance of quality parenting in the face of other stressors. For example, social support was found to have a protective effect on the quality of parent-child interactions for mothers of temperamentally difficult infants, effects which were not apparent for mothers of non-problem infants (Crockenberg, 1981).

At the other end of the spectrum, parental isolation and lack of social support are related to child behaviour problems (Billings & Moos, 1983; Patterson & Forgatch, 1990a, 1990b). This relationship may be due to the association between parental isolation and mood disorder. It has been suggested that isolation contributes to the maintenance of parent mood disorder and poor parenting (Patterson & Forgatch, 1990a). Mothers who are depressed display high levels of irritable, sad behaviours, which make their social interactions aversive to other people. Patterson and Forgatch (1990a) have argued that depressed mothers effectively drive away their sources of support, thus ensuring ongoing depression, high levels of stress, and disrupted parenting. Single mothers, particularly in the post-divorce period, may be at high risk for developing this self-perpetuating pattern of behaviour (Patterson & Forgatch, 1990b).

Social disadvantage

Child emotional and behavioural problems are observed more frequently amongst children of lower socioeconomic status (SES) families, and families faced by adversity (Achenbach, Hensley, Phares & Grayson, 1990; Bird et al., 1989; Boyle & Offord, 1990; Offord et al., 1989; Velez et al., 1989). Modest correlations in the range of .15 to .25 have been obtained between measures of conduct problems and offending, and indicators of family social background such as SES, family income, and material living conditions (Fergusson et al., 1990). The relationship between family SES and child conduct problems appears to be non-specific. That is, low SES is related to a range of childhood disorders, not just conduct problems (Sines, 1987).

It has been suggested that the impact of social adversity on child behaviour reflect class-based differences in parenting styles (Patterson et al., 1989). For example, it has been proposed that middle class parents tend to make greater use of reasoning, allow more freedom of choice and self-direction, use psychological discipline strategies, and express greater positive affect toward children. In contrast, parents of lower socioeconomic status are described as relying more on physical discipline, are more controlling of their child's behaviour, and are less likely to display affection (Patterson et al., 1989).

Results from the Christchurch Health and Development Study (Fergusson, Horwood, Shannon & Lawton, 1989) found that adverse family background and child behaviour problems were both related to poor child-rearing practices such as: failure to access preschool community health, immunisation, education and dental services; high rates of general practitioner contact or hospital admissions for accidents or infections; and family-related problems (such as abuse or neglect) (Fergusson et al., 1990). Care should be taken not to interpret these findings as evidence of uncaring, irresponsible parenting. It may be that adverse social circumstances are associated with a lack of appropriate services, or that socially disadvantaged families lack the resources for accessing the services that are available.

Protective factors

Not all individuals who are at-risk for conduct problems will go on to display later dysfunction. Influences which ameliorate the onset of dysfunction are referred to as protective factors. A protective factor may be defined as attenuating the effects of a risk factor, thereby increasing an individual's resilience. Protective factors and the mechanisms by which they exert their effects have not been as extensively studied as risk factors. There is tentative evidence identifying factors which serve a protective function and these may be organised into three general categories (Kazdin, 1996). ***Personal attributes of the individual*** include child-related factors such as easy temperament, sociability, average intelligence, school competencies and high self-esteem. ***Family factors*** include availability of an emotionally responsive caregiving adult, caretaking styles, parent education and social competence. ***External supports*** comprise peer and friendship relations and support from a significant adult.

Summary

Conduct problems are complex behaviours, the manifestation and causes of which vary according to developmental stage. These behaviours are determined by a multitude of factors. Predisposing child characteristics include male gender (at least for early onset conduct problems), temperamental difficulties, early behavioural problems, lack of social skills, and some characteristic cognitive distortions. A variety of other interactional and contextual factors appear to play a mediating role, increasing or decreasing the risk of those who are already vulnerable. Not surprisingly for young children, family interactions appear to be a primary force in shaping the development of conduct problems. As children move into adolescence, people outside the family have an increasing influence and late-onset conduct problems co-occur with problems at school and disrupted peer relationships (Loeber, 1990). For all children, a disrupted and disadvantaged environment as characterised by family conflict, family breakdown, parental psychopathology and social disadvantage further contributes to risk.

There are a number of areas of research which are beginning to receive stronger research interest, for example, knowledge about the development of conduct problems in girls and in adolescents who have not displayed early symptoms (Keenan, Loeber & Green, 1999). So too, is research examining the development of conduct problems for children who do not live in intact two parent families. In light of the rapidly changing face of families in western societies, increasing research attention is being paid to the development of problems in children living in single-parent, remarried, foster or highly mobile family homes and the question of adapting interventions to these specific groups.

Nonetheless, this review has clearly identified a number of potentially modifiable risk factors for conduct problems. The correspondence between this epidemiological knowledge and interventions for child conduct problems is examined next.

Chapter 3

Assessment

The management of conduct problems begins with a comprehensive assessment, which is essential for determining the most appropriate treatment. This chapter outlines the objectives of assessment, followed by a description of the primary areas of assessment; the techniques used to determine the nature of the presenting problem in its developmental, family and broader environmental context; and the differential diagnosis of conduct disorder and co-morbid conditions.

The assessment process is framed by three main objectives:

1. To describe the primary symptoms and associated features presented by the child;
2. To describe the parent-child, family and extra-familial context within which the child's symptoms occur;
3. To provide a coherent formulation of the presenting problem.

The clinical interview

The clinical interview plays a central role in the diagnosis of conduct problems. The interview aims to delineate the target symptoms, their onset, chronicity and severity and any associated features of the disorder. When conducting an interview with children, an understanding of the developmental context of the child is critical. The developmental stage of the child affects both the range of normal behaviour and determines the assessment of the level and quality of symptoms that are indicative of psychopathology.

The context in which the child lives is another critical area of inquiry. The nature of the parent-child interaction, quality of the home environment and parental psychological well-being have been identified as risk factors in the development and maintenance of conduct problems in children.

Additionally, the clinical interview is the means by which the quality of the therapeutic relationship is established. The manner in which the therapist conveys understanding and carefully listens to the problems presented by the child and family will affect how well rapport is established. Various interview formats have been used in assessing conduct problems in children. Structured or semi-structured interview formats have been devised for research purposes and are primarily applied in research settings. Non-standardised interview formats are typically used in clinical settings.

The ***non-standardised interview*** format allows for greater flexibility of administration and may serve to facilitate rapport with families. An unstructured interview format should be conducted in such a way that all relevant symptoms and issues are comprehensively covered. An effective clinical interview should cover the following key content areas:

1. The full range of current signs and symptoms (not just conduct problems);
2. Current level of functioning;
3. Previous history of relevant psychosocial and medical problems;
4. Developmental history;
5. Recent stressors for child and family;
6. Family situation and psychiatric problems;
7. Available social support and other resources;
8. Relevant cultural issues and
9. Mental state examination.

Structured interviews are designed to apply the criteria covered in standard classificatory systems (for example, the Diagnostic and Statistical Manual of Mental Disorders) in a question-format, to elicit the presence of core symptoms for both externalising and internalising disorders evident in childhood and adolescence. The respondents are typically parents and children. The structured interview comprises a series of standard questions, general prompts and guidelines, which ensures a systematic coverage of relevant symptomatology. Structured diagnostic interviews are used in efforts to improve the reliability and validity of diagnosis across time and between treatment settings, which in turn facilitates comparisons between research studies.

The structured diagnostic interviews that have been well evaluated and are most commonly applied in the assessment of children with conduct problems are:

- Child Assessment Schedule (CAS; Hodges & Fitch, 1979);
- Child and Adolescent Psychiatric Assessment (CAPA; Angold, Cox, Prendergast, Rutter & Siminoff, 1987);

- Diagnostic Interview Schedule for Children (DISC; Costello, Edelbrock, Dulcan, Kalas & Klaric, 1984) and its revisions (DISC-R; Schaffer et al., 1988; and DISC-2; Fisher et al., 1991) and
- the Diagnostic Interview for Children and Adolescents (DICA; Herjanic, Herjanic,Brown & Wheatt, 1975).

The clinical interview with the parent

A comprehensive interview can elicit the following range of information pertinent to the child's presenting problem.

Child's presenting problem: A description of the problem behaviour, with an example of the behaviour in its situational context.

Associated problems: The clinician identifies relevant problems that co-vary with the main presenting complaint. A thorough knowledge of child psychopathology is needed to guide this process. This may include the presence of other co-morbid conditions and medical problems that may be a risk or maintaining factor.

Current level of functioning: Functioning at home may include change in the quality of the interaction with the parents and performance of developmentally appropriate self-care skills and tasks, change in the quality of play, other leisure activities and interests. Functioning at school may include change in the quality of interaction with the teacher and peer networks and friendships and change in the standard of academic performance.

History of the presenting complaint: The onset, chronological development of the primary symptoms, and course of the disorder are explored at this point.

Previous history of psychological/psychiatric treatment: The nature of previous psychological problems and the type of treatment sought are discussed.

Family history and circumstances: The family's structure (depicted as a genogram), and their economic and social resources are explored.

Family relationships and interaction: A description of the quality of family relationships is gained. This encompasses a description of the nature of the child's interaction with each family member, the parent's expectations of child behaviour and family rules, the child's involvement in family decision-making and the quality of the relationship between the parents.

Developmental history: The nature and circumstances of child's development is covered from pregnancy, delivery and the early postnatal period to the major developmental periods. The parent's perception of the infant's temperament should be ascertained. An account of the child's transition through the relevant developmental stages, from infancy to early and middle childhood are also explored in order to identify any delays in acquisition of developmental milestones. The child's development over significant change points is also discussed (for example, on commencing pre-school or school).

Educational history: Schools attended, academic progress, behaviour and peer relationships at school.

Child's general health: Medical problems, handicaps, disabilities, periods of hospitalisation.

Available social supports and other resources: Identifying who is available to the family to provide instrumental and emotional support.

Therapeutic expectations: Identifying the parents' expectations of the clinician and the help that the family is seeking at this time.

The clinical interview with the child

The decision to conduct a clinical interview with the child is based on the child's age and developmental level, the type of problem behaviour being reported and the type of information the practitioner wishes to obtain. Children are an important source of information in reporting symptoms about their feelings, suicidal ideation and covert conduct behaviour problems (that is, stealing and lying). Parent reports and direct observation of parent-child interaction will yield information about overt conduct behaviour problems. Children of school age will be used to adults and will generally provide the clinician with information.

The clinician will need to integrate various types of questions (open-ended, clarification, elaboration and focused styles of questions) to elucidate the child's perspective of the presenting problem. An interview with the child alone also provides the clinician with an opportunity to evaluate the child's cognitive, affective and behavioural characteristics, which may in turn contribute to the treatment formulation.

The clinical interview with the child can elicit the following information:

Presenting problem: The child's view of the reason for attendance and their account of the presenting complaint should be elucidated. Children who are unwilling to discuss the problems, may be prompted to discuss their perspective on a recent incident as described by the parent.

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Associated problems: The child's report of any associated problems needs to be clarified.

Social and peer network: The child's perspective on their social and peer network needs to be explored.

Academic performance: Academic performance and the child's participation and interest in extra-curricular activities need to be elucidated.

The Mental Status Examination of the child covers the following components:

Appearance and behaviour: The child's appearance (size for age, manner of dress and grooming, facial expression, posture) should be noted.

Affect: Observation of the child's mood and affect should be made (for example, whether the child is happy, tearful, sad, angry, aggressive or irritable; whether there are any observable signs of tension or autonomic disturbance).

Motor activity: The clinician should observe a range of behaviour associated with motor activity including, the child's general level of restlessness (inability to remain in seat, fidgeting, squirming in seat), movement of parts of body while seated, coordination, involuntary movements, tics, stereotypes, mannerisms, posturing, rituals and hyperventilation.

Language: The child's understanding and use of language should be observed, including aspects of language such as hearing, comprehension, speech, vocalisation, babble and gesture.

Social responses to the therapist: Aspects of the child's quality of engagement with the therapist should be observed. This comprises the child's social use of language and gesture, social modulation and responsiveness to topics (praise), eye contact (both quality and quantity) and reciprocity in conversation, empathy, cooperation and compliance, and social style (e.g. reserved, expansive, disinhibited, cheeky, teasing, negativistic, shy).

Thought content: The clinician may note any worries, fears or preoccupations; obsessional thinking or suspicions; depressed thinking, which may emerge through themes of hopelessness, guilt or suicidal ideation. The child's self-esteem and self-concept should be noted, as well as their fantasies and wishes: (a) evoked (three wishes); (b) spontaneously mentioned.

Abnormal beliefs and experiences: Although uncommon in clinical presentation of children, the clinician may need to explore the presence of delusional beliefs and hallucinations, if indicated.

Cognition: The clinician should observe the child's level of attention and distractibility, orientation to time, place and person, persistence on any set tasks and curiosity. A Mini-Mental State examination may be conducted as part of the assessment.

Interview with teacher

Where the child's problem behaviour extends to the school setting and includes classroom behaviour problems or academic under-achievement, a clinical interview with the teacher is essential.

This interview may be conducted at the school or by telephone. Several interview formats have been devised to guide the interview, including Breen and Altepeter's (1990) situationally formatted interview guides (based on Barkley's 1981 "School Situations Questionnaire"). Teacher reports of several contextual factors will need to be assessed as part of this interview, including classroom rules of conduct, teacher expectations and the behaviour of other children.

Psychosocial interviews in primary health care settings

General medical practitioners are the most common source of professional assistance sought by parents of children with behavioural and emotional problems and are perceived by parents to be credible sources of advice on a wide range of health risk behaviours (Sanders & Markie-Dadds, 1997). Given the opportunity that general practitioners have to establish a continuing therapeutic relationship with a child and family, they are well positioned in the early identification of conduct problems.

Typically, the screening of behavioural and emotional problems in the child is conducted in the context of a broader psychosocial perspective where information about the family is gathered over time. Brief consultation allows the practitioner the opportunity to identify the child's primary presenting problems, rule out relevant organic causes and identify any significant family stressors. This may lead to referral to a specialist (Christopherson, 1982).

Behaviour rating scales

Self-report measures are often integrated as part of the assessment of disruptive behaviour problems in children. Used in this way, behaviour-rating scales provide additional corroborating evidence of the child's symptoms to that gained from parental interview. Hodges (1993) found that checklists show reasonable convergence with interview-derived diagnosis for conduct disorders. When integrated as part of the treatment plan, rating scales provide a useful check of response to treatment, measuring any changes in the child's symptoms following the delivery of the intervention. In primary health care settings, behaviour rating scales, due to their brevity and quick administration can serve as a screening device, alerting clinicians to those children who manifest symptoms in the clinical range and who may require specialist assessment and intervention.

The most widely used symptom checklists of behavioural disturbance in young children, as cited in recent review papers, are:

- Child Behaviour Checklist (CBCL; Achenbach & Edelbrock, 1991);
- Revised Behaviour Problem Checklist (RBPC; Quay & Peterson, 1983) and
- Eyberg Child Behaviour Inventory (Eyberg & Pincus, in press).

A brief description of the structure, content and psychometric properties of these commonly used self-report instruments is provided in Appendix 1. Parent and family factors are identified as critical contextual variables which contribute to the development and maintenance of conduct problems in the child. Rating scales commonly used for this purpose are also described in Appendix 1.

Direct observation

The use of direct observation of parent-child interaction forms an integral part of the comprehensive assessment of child behaviour problems. The goals of direct observation are: i) to assess the frequency, duration and intensity of problem behaviours; ii) to identify the immediate antecedents and consequences of the problem behaviours, as these behaviours occur in the context of parent-child interaction and iii) to assess the broader ecological context of the behaviours.

The clinical utility of direct observation depends upon the appropriateness of the observation system employed in relation to the nature of the behaviours and the context in which these behaviours occur. No less important are the resources available to the clinician.

Oppositional and aggressive behaviour in children and the family interaction patterns, in which such behaviours are embedded, can be readily observed in the home or clinic setting. A number of observation strategies have been developed which approximate naturally occurring parent-child interactions in the clinic setting. Three widely used structured, microanalytic observation procedures have been developed for use in research settings (Behavioural Coding System, Forehand & McMahon, 1981; Dyadic Parent-Child Interaction Coding System II, Eyberg, Bessmer, Newcomb, Edwards & Robinson, 1994; and the Interpersonal Process Code, Rusby, Estes & Dishion, 1991). Each of these procedures employ complex coding systems which require observers who have been trained to adequate levels of reliability. Simplified versions of the BCS and DPICS-II have recently been developed (McMahon & Estes, 1997).

Sturctured parent-child interaction task

For young children, a structured parent-child interaction task is useful for observing a range of behaviours. This procedure (described below) requires the parent to engage the child in free, independent play and then lead the child through a number of structured tasks. This observational procedure encompasses both free-play and structured elements. In the free-play situation, the natural topography of parent child interaction may be elicited, providing data on the extent to which the parent directs the child, provides structure or routine for the child, and gives attention. In the structured situation, the parent is directed to interact with the child in a goal-directed activity, which provides the impetus for sampling immediate antecedents and consequences of child behaviour in a short time period.

A structured parent-child interaction task procedure may include the following components:

Free play: Show a family to a room equipped with age-appropriate toys and chairs. Ask the parents to engage the child in free-play for approximately 5 minutes. Watch for the extent to which the parents interact with the child, prompt play and suggest activities, are child-centered while the child plays, and use praise and encouragement. Observe the extent to which the child plays independently and creatively explores the environment. Observe parental responses to child initiations (e.g. asking questions).

Structured task: Ask the parents and the child to complete a goal-directed activity (for example, completing a puzzle), appropriate to the child's developmental level. Observe the parents' use of instructions, prompts, praise and encouragement, and their ability to be child-centred. Observe the child's responses to parental instructions.

Clean-up: Ask the parents to supervise the cleaning up of toys. Observe the parents' use of instructions and praise. Observe the child's responses.

The clinician may make qualitative observations of the child and parents' behaviour in the setting or make use of a more structured procedure for coding parent-child interaction. The Family Observation Schedule (FOS; Sanders & Dadds, 1993) is one such system, in which parent and child behaviours are coded into discrete categories. An example of categorising parental praise and instructions and child noncompliance, aggressive behaviour and appropriate verbal statements using the FOS is shown in Table 2.

Table 2. Sample of observed parent and child behaviour categories

Category	Symbol	Definition
Parent praise	P	Any nonaversive comment of approval offered to the child by the parent (it may be descriptive or global comment).
Instruction (alpha)	IA	Any verbal command that is clear, has a specific behavioural referent and is presented non- aversively.
Aversive alpha instruction	IA-	Any verbal command that is clear, has a specific instruction behavioural referent, but is presented aversively.
Instruction (beta)	IB	Any verbal command that is unclear, lacks a specific behavioural referent and is presented non-aversively.
Aversive beta instruction	IB-	Any verbal command that is unclear, lacks a specific verbal referent and is presented aversively.
Child non-compliance	NC	Refusal to initiate compliance within 5 seconds.
Aggression	PN	Actual or threatened attacks or damage to another person, or destruction of an object or materials (e.g. punching or biting).

A clinic-based observational procedure for use with older children (seven years and older), involves the 'family problem-solving discussion' task. The aim of this procedure is to obtain data on a family's problem-solving capacity. The various dimensions of problem-solving competence are observed, for example, the extent to which family members actively listen to each other or conversely interrupt each other and the ability to generate solutions in contrast to expressions of futility. As the family problem-solving discussion task can be stressful for family members, the clinician needs to structure the task to minimise escalation of conflict. The clinician

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needs to emphasise the importance of finding solutions to the problem, keeping discussions to no more than 10 minutes, and devoting equal amounts of time to a child-nominated and parent-nominated problem.

Behaviour in the school setting

Behavioural observation systems designed specifically for the school setting have received less attention, yet are important in facilitating cross-situational comparisons during the assessment process (McMahon & Estes, 1997). Existing parent-child observation systems have been adapted for use in the classroom setting. For example Breiner & Forehand (1981) and Rusby, Estes & Dishion (1991) have adapted the Behavioural Coding System and the Interpersonal Process Code, respectively, for use in the classroom. The Child Behaviour Checklist family of instruments provides a Direct Observation Form (CBCL-DOF; Achenbach, 1991), which may be used by an independent observer coding a child's behaviour in the classroom setting. It is relatively simple to use and yields a profile of internalising and externalising behaviours as well as scores for six narrow-band problem scales, on-task behaviour and a Total Problem score.

The Direct Observation Form discriminates between children with externalising behaviour and other behaviour problems. A specific measure of the amount of time a child spends on-task, Academic Engaged Time (AET), has been developed by Walker, Colvin and Ramsey (1995). Children are observed during two 15-minute periods using a simple stopwatch method. The instrument has a positive correlation with academic performance and discriminates boys who are at risk for conduct problems from boys not at risk (Walker, Shinn, O'Neill & Ramsey, 1987).

Relatively few observational measures of covert conduct problem behaviours have been developed. Hinshaw, Heller and McHale (1992) have developed a clinic-based protocol in which a child is observed completing a worksheet alone in a room containing a completed answer sheet, money and toys. The child's behaviour during the session and an inventory of money and objects after the session is used to provide a measure of covert behaviours including stealing, cheating and property destruction. These measures were correlated with parental ratings of Delinquency on the CBCL.

Monitoring of child behaviour by parents

Parent monitoring of child behaviour is another source of assessment data, which documents specific features of selected problem behaviours as they occur in the natural setting. The type of structured monitoring form that is used determines the type of behavioural data yielded. There are several broad types of monitoring procedures that may be applied in specific settings.

The use of a ***behaviour diary*** provides relatively more comprehensive information about the nature of the target behaviour. In its design, a behaviour diary provides a description of the problem behaviour, the setting in which it occurs, and the antecedents and consequences for each episode of problem behaviour. ***Frequency counts*** provide a record of each instance of the problem behaviour as it occurs over time. While retaining information about the number of occurrences of problem behaviour, the form itself does not contain information about the situational context of the behaviour. The information derived from a frequency tally may also be depicted in the form of a behaviour graph. When the focus of assessment concerns the ***duration of problem behaviour***, rather than its frequency per se, a duration record is most appropriately applied. A typical situation may be the length of time taken to complete a set task, or parent reports of their child's excessive complaining.

The use of monitoring procedures has several objectives in addition to the collection of data about the child's behaviour. Monitoring data provides collateral information about the reported nature, frequency, duration and intensity of selected problem behaviour as derived from clinical interview, self-report questionnaires or direct observation.

A parent's ability to implement an accurate monitoring procedure requires a number of attendant skills comprising the ability to observe, record and classify behaviour into predefined categories. Evidence indicates that deficits in tracking and classification skills are associated with parent-child problems (Wahler & Dumas, 1984). When considering this, the application of parent monitoring of child behaviour as one of the assessment strategies, provides critical information beyond the child's behaviour problem per se. It provides the opportunity for the clinician to assess and modify the parent's observation, discrimination and labelling skills.

The integration of assessment findings

Having completed the assessment, the clinician is now in a position to integrate the data gathered from multiple sources. A critical issue is how best to integrate information from multiple sources, particularly when the information is discordant, in order to arrive at a decision about diagnosis and treatment.

Using parent and teacher reports, Offord et al. (1996) compared four strategies for integrating assessment data in relation to the classification of conduct disorder and

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oppositional disorder. Self-report and structured clinical interviews were used as the methods of assessment (revised versions of the Ontario Child Health Survey and the Diagnostic Interview for Children and Adolescents).

The first strategy is based on the approach, which yields 'informant-specific' classifications. This strategy maintains the 'separateness of the data by informant'. That is, a child's classification may be based on the child's information, the parent's information (parent-identified disorder) or the teacher's information (teacher-identified disorder). The other three strategies are based on combining data from different sources to arrive at one classification. Each strategy represents a specific way of combining information from different sources.

The authors suggest that using a source-specific strategy, instead of source combining strategies, yields additional information about the external variables that are likely to contribute to diagnosis. This approach allows the clinician to tease out questions of aetiology and natural history of the disorder, by considering the relative contribution of each specific source of information. The authors conclude that an informant-specific strategy be used as the first step in the process of integrating assessment data, combining information to generate a diagnosis as secondary step in this process.

In addition to deriving a formal diagnosis of disorder, an important clinical task is to tease out the relationship between the child's problem behaviour and the consequences of the problem behaviour. A delineation of these functional links informs the treatment plan in relation to identifying the target behaviours and bringing about change in these behaviours.

Kanfer and Saslow's (1969) conceptual model emphasises (a) the classification of behaviour in terms of excesses, deficits, inappropriate stimulus control and (b) the pattern of antecedents and consequences which maintain the behaviour over time. The use of a SORCK model facilitates the understanding of the problem behaviour in relation to relevant antecedents and consequences. The SORCK model allows simultaneous analysis of multiple factors, hypothesised to interact to produce the target behaviour. The classification of behaviour and an outline of the SORCK model are provided in Appendix 2.

Differential diagnosis

A medical assessment may be indicated to check whether the symptoms are attributable to the biological effects of a medical condition. For instance, the effects of specific forms of epilepsy may produce symptoms associated with increased irritability, disturbed conduct and reduced concentration. The role of organic brain disorder in the precipitation and maintenance of conduct disorders has possibly been overlooked (Lewis et al. 1989; Kosky, 1992).

The co-occurrence of ***Oppositional Defiant Disorder*** with Conduct Disorder ranges between 20% - 60%. Oppositional Defiant Disorder is considered a milder form and often a precursor to Conduct Disorder. Oppositional Defiant Disorder includes features of disobedience and opposition to authority figures. However, it does not include a persistent pattern of more serious forms of behaviour involving violation of basic rights or age appropriate societal rules/norms. When the pattern of behaviour meets the diagnosis of Conduct Disorder and Oppositional Defiant Disorder, the diagnosis of Conduct Disorder takes precedence.

Attention Deficit Hyperactivity Disorder is the most common co-morbid condition associated with Conduct Disorder; for example, 30%-90% of children classified Conduct Disorder or ADHD also classified in the other category, as reported by studies of non-clinic populations using cut-off scores to identify cases. However, when examining patterns of co-morbidity such as this, Hinshaw (1987) found that children diagnosed with Conduct Disorder are more likely to be classified as having ADHD. In differentiating these two categories of behaviour problems, features of both disorders are likely to co-occur in clinic referred children. However, the cardinal feature, which distinguishes the behaviour of a child with primary attention-hyperactive problems is that the behaviour itself does not violate age-appropriate norms and therefore does not usually meet the criteria for Conduct Disorder. When criteria for both disorders are met, then both diagnoses should be given (Reeves, Werry, Elkind et al., 1987).

Manic-depressive disorders are rare in childhood. However, irritability and conduct problems can occur in early adolescent children who are experiencing a manic episode. However, by considering the course and accompanying symptoms, a manic episode can be distinguished from conduct problems. Conduct disorder usually presents in childhood, typically has a persistent course and is not characterised by symptoms such as grandiosity or reduced need for sleep.

An adjustment disorder (with disturbance of conduct or mixed disturbance of conduct and emotion) may need to be considered if clinically significant conduct problems develop (without meeting the full criteria for Conduct Disorder or Oppositional Defiant Disorder) in clear association with the onset of a psychosocial stressor. The symptoms will have developed within three months of a stressor and persisted no longer than six months after the stressor and the child will be experiencing associated social or school problems.

A practical approach

A practical approach to office-based assessment and management of a child with established or incipient conduct problems is provided for the clinician in Appendix 3.

Chapter 4

Management

This chapter reviews several promising treatments for conduct problems in children. The treatments have been selected on the strength of the available evidence from empirical research examining their efficacy. There is now a substantial literature on the treatment of children with conduct problems. Literally hundreds of interventions have been developed to assist these children and their families, however the majority of these have not been scientifically tested and are therefore of unknown efficacy (Kazdin, 1996). In preparing this review, we have focused our attention primarily on the most promising interventions for preadolescent children where there is sufficient evidence available to derive reasonable conclusions about the likely success of the approach if applied in the field. We have followed the National Health and Medical Research Committee's recommended guidelines for determining the strength of scientific evidence supporting an intervention (National Health and Medical Research Council, 1995). These were outlined in the introduction.

Each type of treatment presented here is based on a review of the accumulated evidence of all published randomised controlled trials (rated as level I evidence). Accordingly, these treatments are considered to be of known efficacy in the management of conduct problems in young children.

Given what is known about the risk factors contributing to the development of conduct problems, three general types of psychosocial treatments have been employed in the management of conduct problems in children. These interventions include: 1) interventions designed to improve parenting skills and family relationships; 2) interventions designed to improve children's social relationships with others and their social problem-solving skills and 3) school-based interventions designed to improve classroom and playground behaviour at school.

The fourth area of treatment is psychopharmacological management of children with conduct problems. Much of the evidence on the use of drug therapy in the management of conduct problems has been for the use of psychostimulants. Other types of pharmacological treatments, however, have been used on the basis of their effectiveness in managing specific behavioural symptoms, notably aggression, in adults and are as yet of only suggestive therapeutic benefit with children.

Family interventions

The rationale for parenting programs is that dysfunctional parenting practices place children at risk for developing conduct problems. Family intervention is defined broadly here as a therapeutic process that helps modify psychological distress of individuals by targeting their interpersonal relationships within the family. Typically family interventions aim to change aspects of family functioning which are related to the aetiology, maintenance, relapse, or exacerbation of an individual's functioning. This may include attempts to alleviate behavioural or emotional problems of individual family members, relationships between family members (marital partners, parent-child relationships, sibling relationships) or relationships between the family and the broader community. The approach is broadly educative and emphasises reciprocity amongst family members. Hence, this definition incorporates both parent training interventions which aim to improve parent-child relationships and broader family interventions which aim to improve adult adjustment by targeting family and marital communication and problem solving skills, parental depression, stress management skills and social support.

Hence, family intervention emphasises the importance of family relationships and interactions to psychological distress rather than a single, homogeneous approach or therapeutic modality. While there are several different theoretical approaches to assisting families of children with conduct problems (systemic, structural, parent training based on Adlerian psychology), progress in establishing a credible scientific basis for family intervention methods has derived primarily from behavioural family intervention. This approach is based upon the social learning approaches to family intervention (Patterson, 1969).

Behavioural family intervention has its roots within the applied behaviour analysis tradition, an approach which emphasises the importance of involving parents, teachers and significant others (e.g. daycare staff) as 'mediators' or 'behaviour change agents' to bring about lasting therapeutic change (Patterson, 1969; Tharp & Wetzel, 1969). Many of the management techniques in BFI were initially derived from contemporary learning theory, particularly models of operant behaviour (Baer, Wolf & Risley, 1968; Skinner, 1953). However, as the field has matured and as it became evident that some families do not respond to treatment, other models have continued to inform the development of BFI. These models include cognitive social learning theory (Bandura, 1977), developmental theory (Forehand & Wierson, 1993), ecological perspectives in human development (Biglan, 1992, 1995), attribution theory (Smith & O'Leary, 1996) and to a lesser extent, systems theory (Robin & Foster, 1989).

Characteristics of family interventions

There are a number of empirically supported and clinically available parenting programs with preadolescent conduct problem children which share a great deal in common. These include programs developed in the US by Patterson (1975), Forehand and McMahon (1981), and Webster-Stratton (1996), and a program developed in Australia by Sanders and colleagues (Sanders, 1999). The centrepiece of empirically supported interventions to assist the families of conduct problem children is behavioural parent training. This psychoeducational approach is also known as parent management training, parent training therapy and child management training.

Several writers have articulated the key characteristics of behavioural parent training interventions (e.g. McMahon, in press). The focus of the intervention is the training of parents to implement specific behaviour change skills in the home. Much less emphasis is placed on direct contact with the child, although children attend sessions in some programs so parents can practise their skills (Forehand & McMahon, 1981).

Parents are taught a variety of skills such as contingent use of praise, positive attention, token reinforcement, specific instructions, planned ignoring for minor problem behaviour, exclusionary and non exclusionary time out (also known as quiet time), and contingency contracts. Parents learn to apply these skills at home and in the community with target children in the family in order to teach children prosocial behaviour. The program often involves providing instruction for parents in social learning and behavioural principles in an effort to encourage parents to generalise their skills to non targeted behaviours, and with other siblings.

Interventions typically use active skills training methods such as modelling (live or videotaped), rehearsal, coaching, prompting, feedback and graded homework assignments. Some programs use structured learning environments where parents are observed interacting with their children and receive feedback from the practitioner through one way screens. Parents are taught how to monitor their child's behaviour using behavioural observation procedures to track their child's progress throughout the intervention.

Three sample parent-training programs are outlined below to illustrate the kinds of interventions available for children below the age of 12 years.

Forehand and McMahon's Helping the Noncompliant Child Parent Training Program: The program was originally developed by Hanf (1969). It was subsequently modified and evaluated in a series of studies by a number of researchers including Forehand

and colleagues (e.g. Forehand & McMahon, 1981), Webster-Stratton (1996) and Eyberg (Eyberg, Boggs, & Algina, 1995). In the Forehand and McMahon variant of the program for children aged three to eight years, parent training takes place in a controlled learning environment, usually with individual families in a clinic. According to McMahon and Wells (1998), the ideal learning environment includes a child's play room, equipped with one way mirrors, a sound system and a 'bug in the ear' device (Farrall Instruments) through which instructions are given to parents. Parenting skills are taught through a process of didactic instruction, modelling, role-play, live practice of skills, prompting and feedback from the therapist.

The training program is divided into two phases: a differential attention phase (Phase 1) and commands and time out phase (Phase 2). During the first phase, parents learn to increase positive attending and to eliminate commands, criticisms and questions. The parent provides positive verbal and physical attention contingent upon compliance and to ignore minor inappropriate behaviour. Homework assignments help the parent transfer their learning from clinic to home.

Phase 2 introduces the parent to the skill of providing concise commands and back up (a warning of a timeout consequence, then a three-minute timeout procedure contingent upon continuing non-compliance). Once the skill is mastered in the clinic, the parent implements the procedure at home. For full details of the procedure see Forehand and McMahon (1981).

To promote better generalisation and maintenance effects, this basic parent training model has been extended to include a focus on adult adjustment issues. Parent enhancement therapy incorporates several adjunctive interventions targeting parental perceptions of the child's behaviour, marital adjustment, parental personal adjustment and extra familial relationships (Griest, Forehand, Rogers, Breiner, Furey & William, 1982).

Overall, the Forehand and McMahon parent training procedure has been subjected to extensive evaluations through a series of randomised controlled trials, and is clearly an effective intervention for young children with oppositional behaviour problems. It is a well developed, clearly described and carefully evaluated intervention that is delivered as an individual therapy program for parents of young oppositional children.

Webster-Stratton's Videotape Modelling Program: Webster-Stratton's model of parent training (e.g. Webster-Stratton, 1996) in part evolved as an attempt to improve the reach and cost effectiveness of parent training interventions. The program has evolved from a largely self administered intervention involving the use of videotaped modelling of parenting skills, to a multicomponent intervention comprising a basic parenting program plus a series of adjunctive models targeting additional risk factors such as parents' interpersonal skills, children's academic learning difficulties and social skills. Webster-Stratton has demonstrated that video modelling can be an effective medium for teaching parenting skills.

The program was designed as an early intervention program for parents of three to eight year old children with oppositional defiant and conduct disorders. Drawing on the research on observational learning, Webster Stratton developed a series of parenting videotapes with vignettes depicting successful and unsuccessful interactions between parents and children in naturalistic settings. The program shows parents of different ages, cultures and socieconomic backgrounds in order that parents are able to identify with the model. Two parenting interventions have been developed.

The ***basic program*** involves 26 hours of intervention over 13 to 14 weekly sessions. There are 10 videotape programs of modeled parenting skills (250 vignettes, each 1 to 2 minutes long). The videotapes demonstrate the use of behavioural principles and are used to stimulate group discussion, and parent problem solving. The therapist's role is conceived as one of supporting and empowering parents through the use of soliciting their ideas and problem solving. The approach is viewed as one that supports parental self-management.

The ***advanced program*** targets parents' interpersonal skills. According to Webster-Stratton, the rationale for targeting parenting interpersonal skills stems the high relapse rates with parents who have experienced divorce or relationship breakdown (Webster-Stratton, 1996). This 14 session videotape program (60 vignettes) involves four components which target improving parents' self control skills, communication skills, problem solving skills and increasing social support and self care. This program is delivered following the BASIC program in a therapist-led group discussion format.

These parenting interventions have recently been extended to include an academic skills training program for parents and child social skills training interventions. A series of controlled evaluations have established the efficacy of the basic therapeutic approach (see Webster-Stratton, 1996 for a review of this literature).

Triple P-Positive Parenting Program: In Australia, Sanders and colleagues have developed a unique multi-level parenting and family support initiative known as the Triple P-Positive Parenting Program. Whereas the previous two programs discussed were designed as either individual or group programs, Triple P has five levels of intervention on a tiered continuum of increasing strength for parents of preadolescent children from birth to age 12 (Sanders & Markie-Dadds, 1992; Sanders & McFarland, in press; Sanders, Markie-Dadds, Tully, & Bor, in press).

The rationale for this tiered multilevel strategy is that there are differing levels of dysfunction and behavioural disturbance in children and parents have differing needs and desires regarding the type, intensity and mode of assistance they may require. The multilevel strategy is designed to maximise efficiency, contain costs, avoid waste and over servicing and to ensure the program has wide reach in the community. Also, the multidisciplinary nature of the program involves the better utilisation of the existing professional workforce in the task of promoting competent parenting. A full account of the Triple-P programme is provided in Appendix 4.

In summary, Triple P's key features include a combination of universal prevention oriented approaches with early intervention strategies for high risk children, the use of multiple levels of intervention to facilitate matching of intensity to need, the use of flexible delivery modalities (group, individual, self directed and telephone assisted) and the targeting of destigmatising access points. A series of randomised controlled trials have evaluated the effects of different levels of the Triple P intervention model.

Overview of the evidence for family interventions

The parent training literature has been reviewed a number of times in recent years (e.g. McMahon, in press; Prinz & Miller, 1994; Sanders, 1996). These reviews have documented the evidence for the efficacy of parent training in the treatment of children with conduct problems. The strongest evidence attesting to the efficacy of behavioural family interventions with conduct problems is with early adolescent children displaying oppositional behaviour problems. Meta analyses demonstrate that parent training is associated with large and sustained effect sizes. It is often associated with positive benefits in areas of family functioning over and above changes in the child's behaviour. These include reduced levels of parental depression and stress, marital conflict and improved parenting efficacy and sense of competence (Connell, Sanders, & Markie-Dadds, 1997; Dadds, Schwartz, & Sanders, 1987; Griest, Forehand, Rogers et al., 1982; Miller & Prinz, 1990; Wells, Griest, & Forehand, 1980; Webster-Stratton, 1994).

A number of well controlled trials have been conducted evaluating the effectiveness of family intervention programs for preschool and primary school children who are considered at risk for developing later conduct and emotional problems. Many of these early interventions focus on improving parenting and enhancing the child's social and cognitive development (Committee on the Prevention of Mental Disorders, 1994). In most successful early intervention programs for conduct problems, parent training forms a central focus for the intervention (Johnson, 1991; Levenstein, 1992; Strayhorn & Weidman, 1991).

There is strong evidence that parent training interventions can be effective in reducing aggressive and disruptive behaviours in preschool children (Berrueta-Clement, Schweinhart, Barnett & Weikart, 1987; Hawkins, VonCleve & Catalano, 1991; Johnson & Walker, 1987, Webster-Stratton, 1990; 1996). These programs typically involve training parents to use positive parenting methods. These include increasing positive attention and affection when a child behaves appropriately, provision of engaging age-appropriate activities and giving clear, calm instructions with realistic follow through such as time-out or withdrawal of privileges. Several recent reviews of this literature show that parents can be trained to use more effective parenting skills and that when this training occurs, there is often rapid improvement in the child's behaviour and adjustment (Kendziora & O'Leary, 1992; Sanders, 1999; Webster-Stratton, 1993). Parents may also show positive improvements in their attitudes towards children reductions in parental negativity, and a greater sense of parenting competence and reduced stress (Forehand, Wells & Griest, 1980; Pisterman et al., 1992).

The recipients of such programs generally report high levels of consumer acceptability and satisfaction with the intervention (e.g. Webster-Stratton, 1989; 1993). Webster-Stratton (1989) found ignoring misbehaviour was rated by parents as more difficult to use and less useful than other techniques taught in her program (e.g. use of rewards and time out). Heffer and Kelley (1987) found that low income families rated timeout as being significantly less acceptable than did high income families. However, parents' ratings of acceptability appear to be affected by the severity of the child's problem behaviour (Frentz & Kelly, 1986). Much less is known about children's perception of management procedures. Dadds, Adlington and Christensen (1987) found that both non-clinic and oppositional children rated timeout as an acceptable strategy for parents to use.

Parent training programs can be delivered in a number of different formats, including self-administered, telephone assisted, group and individual (O'Dell, 1974). However, those programs with the strongest empirical support in producing clinically significant reductions in antisocial behaviour provide parents with clear written and verbal instructions to parents, model parenting skills, use behavioural rehearsal procedures to practice skills and provide contingent feedback following direct observation of parent-child interaction. Video-modelling is a particularly effective training method, although maintenance of treatment effects has been poor with video-modelling alone (Webster-Stratton, Hollinsworth & Kolpacoff, 1989). There is little evidence to support the effectiveness of other approaches to family intervention such as Parent Effectiveness Training (PET) or Systematic Training for Effective Parenting (STEP), even though such programs are widely used and have strong advocates. Studies evaluating these two approaches have generally employed weak methodologies and the clinical significance of the treatment effects have not been adequately reported (e.g. Wood & Davidson, 1993).

A caveat

While family intervention is a powerful intervention, it is not a panacea. Many forms of child psychopathology involve significant co-morbidity, and family factors are one of a number of aetiological factors (albeit an important one) influencing children's adjustment. As children move through the school system, peers and academic learning failure increasingly affect children's adjustment. During adolescence, many forms of behavioural disturbance become more firmly established. Consequently, a preventive emphasis focused on early childhood and the early years of primary schooling is likely to have the greatest yield in terms of impact on child conduct problems.

A major challenge in delivering better intervention services to children and families concerns the need to develop more effective ways of reaching high risk families. Graziano (1977) has argued that parent training has revolutionised the clinical approach and may be more acceptable to these families. However, in our opinion, while techniques of behaviour change may constitute the therapeutic centrepiece of the approach, the consultation process strongly influences the acceptability of treatment and therefore has an important role in the overall strategy (Sanders & Lawton, 1993).

Child-focused treatment approaches

Traditional psychotherapy

Weiss, Catron, Harris and Phung (1999) evaluated the effectiveness of child psychotherapy interventions for conduct problems that are typically delivered in child outpatient settings. Using a randomised design, the study measured the treatment outcome following traditional child psychotherapy compared with an attention-placebo control (academic tutoring). Traditional psychotherapy was defined as the delivery of psychological treatment using a variety of specific intervention techniques (behavioural, cognitive and psychodynamic), delivered by therapists who were "hired through standard clinical practice". The authors found that, compared with the attention-placebo condition, traditional psychotherapy produced only a small treatment effect on child functioning and psychopathology (Weiss et al., 1999, p.93).

Taylor, Schmidt, Pepler, and Hodgins (1998) compared Webster-Stratton's Parents' and Children Series (PACS) parenting groups with the eclectic approach typically offered at a Children's Mental Health Centre and a wait-list control group of parents seeking help for managing behaviour problems in their three to eight year old children. The eclectic treatment included ecological, solution-focused, cognitive-behavioural, family systems and popular press parenting approaches. Utilising a controlled randomised design, results showed the treatment effects of the PACS program to be superior to the weaker effect of the eclectic approaches on child behaviour and parental satisfaction with treatment, compared with the control group (Taylor et al., 1998).

The results of both of these studies are consistent with the general trend in the literature that eclectic child psychodynamic techniques and psychotherapy have not been demonstrated to be empirically effective. In their review of treatment outcome studies, Weisz, Donenberg, Han and Weiss (1995) found that only two of the published clinical studies were completed in the last 25 years, and only one of these was a randomised controlled trial. Hence there is a paucity of adequate research to support empirically effective clinic-based psychotherapeutic interventions.

Cognitive behaviour approaches

Further lines of inquiry have examined the link between overt behavioural responses and cognitive processes. Children with conduct problems display specific difficulties solving social problems (Rubin & Krasnor, 1986), and tend to respond using combative strategies to hypothetical conflict situations (Milich & Dodge, 1984). Children who display predominantly aggressive behaviours tend to rely on aggressive cues to guide their responses in problematic social interactions or misattribute hostile intentions to others (Dodge & Newman, 1981).

Specific maladaptive cognitive processes have been related to social skill deficits that characterise the interactions of conduct disordered children with their peers (Crick & Dodge, 1994; Shirk, 1988). These deficits include:

- generating alternative solutions to interpersonal problems (handling different social situations that provoke frustration or anger);
- identifying means to obtaining particular ends (making friends);
- identifying consequences of one's own actions (what could happen after a particular behaviour);
- making attributions to other's motivation of their actions (attributing hostile intent)
- perceiving how others feel and anticipating the effects of their actions and
- expectations of the effects of one's own actions.

Deficits and distortions in these cognitive processes have been related to disruptive behaviour (Lochman & Dodge, 1994). Based on this research, cognitive-behavioural interventions have been developed to train children in social and cognitive problem-solving skills.

Early treatment studies attempted to remediate these deficits by providing direct training in social skills. Several well-controlled studies provided support for this approach (Bierman, 1989; Bierman, Miller & Staub, 1987; Michelson et al., 1983; Spence & Marzillier, 1981). The studies varied in terms of the treatment sample used. Micheslon et al. (1983) used a clinic sample of boys aged between 8 to 12 years. Spence & Marzillier (1981) used a sample of male juvenile offenders and Bierman and colleagues targeted early primary school aged boys displaying aggressive behaviour. Overall, therapeutic effects were demonstrated across studies at post-treatment and follow-up. These effects were defined variously as specific improvements in social skills, improved peer acceptance and reduced conduct problems, as rated by parents, teachers and adult observers.

A later approach has focused more on the social responses of the conduct disordered child. Cognitive social processing models attempt to integrate the cognitive aspects of social interactions into interventions (Kendall 1985). Cognitive processes refer to the broad class of constructs which pertain to how an individual perceives codes, and experiences the world. The fundamental assumption of this model is that a conduct disordered child's responses to anger-arousing, or frustration-arousing social events are determined by his or her maladaptive cognitive processes. It is the child's perception of the particular event which determines their response. The focus of treatment in this approach is to intervene at the level of cognitive process. The following are some examples.

The Problem-Solving Skills Training (PSST) approach develops a child's interpersonal cognitive problem-solving skills. There are variations to this approach but several key characteristics are shared. The primary features of the Problem-Solving Skills Training approach involve the child in an active skills training program of treatment. Through the use of specific behaviour change strategies (direct reinforcement, feedback, modelling, behaviour rehearsal) the child receives training in the cognitive-behavioural skills associated with each stage of problem-solving: skills for problem identification; solution generation selection and evaluation and enactment. Through practice, the child learns to apply these skills to a graduated series of tasks from impersonal games and hypothetical situations, to events in which the oppositional, aggressive or antisocial behaviour is displayed. The Problem-Solving Skills Training approach devised by Kazdin (1996), represents a program of intervention which is based on the cognitive model described. It is conducted over twenty 45-minute sessions where the child practises the skills of the problem-solving approach.

Webster-Stratton (1990) has developed a discrete ***child-focused social skills intervention*** as part of a treatment strategy with young children with conduct problems and their families. The child-training component is developmentally tailored for the young, aggressive children, aged between three and eight years, and is described as the 'Dinosaur School' program. Children are selected on the basis of risk factors associated with problem-solving and social skill deficits, peer rejection, loneliness and negative attributions. The program aims to promote the child's social competence, positive peer interactions, non-aggressive conflict management strategies and enhance the child's school behaviour.

The interactive program comprises a 22-week small group intervention using a videotape-modelling treatment format. The videotape program consists of 100 vignettes depicting children in a variety of situations and settings (e.g. at home, with parents, in the classroom and in the playground). The program addresses specific interpersonal difficulties encountered by young children who have conduct problems. Specific behavioural and cognitive deficits are targeted, including: lack of social and conflict resolution skills, loneliness, negative attributions, inability to empathise and school-related problems.

The videotape segments are used to foster discussion, problem-solving and modelling of prosocial behaviours. Through this process children are taught alternative, adaptive coping skills, including: managing anger, problem-solving at home and school, making friends, coping with rejection and teasing, paying attention to teachers, finding alternatives to bothering a child sitting next to them in the classroom and cooperating with family members, teachers and classmates.

Evidence for child-focused approach

Several randomised controlled trials of the cognitive-behavioural model have been conducted (Kazdin, Esveldt-Dawson, French & Unis, 1987a, 1987b; Kazdin et al., 1989; Kendall et al., 1990), the accumulated evidence of which shows the superiority of the cognitive-behavioural model in producing therapeutic change over comparison treatment conditions in hospital settings.

The series of investigations by Kazdin et al. (1987a) and Kendall et al. (1990) were based on an in-patient sample of pre-adolescent youths with conduct problems, and marked aggressive behaviour. Both studies implemented a controlled randomised design using comparison treatment conditions. Kazdin et al. (1987a) compared Problem-Solving Skills Training with non-directive relationship therapy and an attention placebo control group. Parent and teacher ratings on behaviour problem and social adjustment were collected at pre- and post-treatment and 1 year follow-up. Problem Solving Skills Training was found to be superior to both of the other approaches on parent and teacher ratings of behaviour problems and social adjustment, with children moving to within or near the normal range on these measures.

Kendall et al (1990) used a cross-over design to compare a variant of the cognitive-behavioural intervention (Kendall & Braswell, 1985) with insight-oriented therapy for a group of 6-13 year old in-patient youths with a primary diagnosis of conduct disorder. The results indicated that the cognitive-behavioural intervention was superior to insight-oriented therapy based on teacher ratings of self-control and prosocial behaviour and self-reports of perceived social competence. Additonally, the study showed the percentage of children who moved from the deviant to within the nondeviant range of behaviour was significantly greater for the cognitive-behavioural treatment group.

Webster-Stratton and Hammond (1997) conducted a controlled treatment-comparison study of their child-focused intervention, the 'Dinosaur School' program, with and without a parent-training component. The child-focused treatment produced effects in the specific areas of problem-solving and conflict management that were directly targeted for treatment, but did not affect conduct problem behaviours not directly targeted (e.g. noncompliance).

The treatment effects of cognitive-behavioural intervention have therefore been replicated in several controlled studies. These randomised clinical trials have produced a body of evidence which indicates that cognitively based treatments have a beneficial therapeutic effect in reducing behaviour problems, notably aggressive behaviour, and increasing prosocial behaviour. At post-treatment and follow-up, parent and teacher reports indicate that children have moved to within or near the non-deviant range on standard scales of behaviour problems and social adjustment (Webster-Stratton & Hammond, 1997; Kazdin, 1996).

School-based interventions

School-based strategies may be a key component in the effective treatment of conduct problems for school-aged children. After the age of five or six years, children spend up to half their waking hours in school. It is in this environment that much of their emotional, social and cognitive development occurs. Thus, the school setting provides opportunities for promoting the resilience and wellbeing of students, detecting problems at an early stage, and providing integrated, long term intervention strategies (Sander & Markie-Dadds, 1992; Nicholson, Oldenburg, McFarland & Dwyer, 1999). In addition, schools can provide much needed stability and predictability for children exposed to adverse or disrupted family environments (Alexander & Entwistle, 1996; Humphreys & Sturt, 1993).

The development of conduct problems in the school setting may be due to a number of factors. These problems may be the extension of a child's conduct problems displayed in other settings. Alternatively, some children are disruptive at school because they are bored with work that is too easy for them, or because the work is too hard and they are unable to cope with the demands made on them. Many of the factors that contribute to the development of problems in the home also operate within the school environment. Thus, problems are increased by a classroom teacher who selectively attends to misbehaviour and fails to reward good behaviour.

An additional reason for considering school-based interventions concerns the impact of the child's behaviours on the child's academic performance and the broader school environment. Over the long term, children with conduct problems show poorer academic achievement, and for children with severe, persistent conduct problems, the ultimate school outcome may be school failure, suspension, exclusion or voluntary early school leaving. In addition, these children may be disruptive in the classroom and aggressive in the playground, and they often require increased individual attention in order to complete the classroom based activities. Such behaviours can reduce teacher effectiveness and limit learning opportunities for other children (Mertin & Wasyluk, 1994). These children present teachers with challenges in the classroom (Nicholson, McFarland & Oldenburg, 1999), and their behaviours have been identified as a major source of stress for teachers (Wheldall & Merrett, 1988).

There has been a recent rapid growth in research evaluating the effectiveness of school-based treatment and prevention programs for children's behavioural problems. School-based approaches vary along a number of dimensions. Some interventions focus on quite specific behaviours such as bullying (e.g. Bullying Intervention Program, Olweus, 1994) whilst others address a range of conduct problems (e.g. Fast Track, Conduct Problems Prevention Research Group - CPPRG, 1992) or child psychopathology more broadly (e.g. Child Development Project, Watson et al., 1997; Primary Mental Health Project, Cowen et al., 1996).

Interventions may be provided only to those children with established conduct problems as identified by intensive screening. Alternatively, they may be provided to those children who are at high risk due to the early signs of conduct problems, or their exposure to risk factors for conduct problems, or they may be provided universally to all children in the school setting regardless of current behaviour.

The agent of change also varies across interventions. Some programs utilise teachers as the agent of change, through their classroom management skills (e.g. Good Behaviour Game, Kellam et al., 1994), or via the curriculum (e.g. Promoting Alternative Thinking Strategies - PATHS, Greenberg & Kusche, 1996). Others address children's social-cognitive skills (e.g. Anger Coping Program, Lochman & Wells, 1996; Peer Coping Skills Program, Prinz, Blechman & Dumas, 1994), provide parenting interventions through the school, or provide a combination of multiple strategies (e.g. Fast Track, CPPRG, 1992; First Steps to Success, Walker et al., 1998; Linking the Interests of Families and Teachers - LIFT, Reid et al., in press; Montreal Longitudinal Experimental Study, Tremblay, Masse, Pagani & Vitaro, 1996; Seattle Social Development Project, Hawkins, Von Cleve & Catalano, 1991). Increasingly, interventions are focusing on the quality of the broader school environment, parental engagement with schools and the involvement of the community as universal strategies for improving the behaviour of all students. For the purposes of the following discussion, school-based interventions are defined by the agent of change.

Teacher skills interventions

Little and Hudson (1998) have defined five categories of teacher behaviour that impact on the occurrence of conduct problems. ***General classroom management*** practices refer to the skills of the teacher in setting up an effective learning environment within the classroom. The development of ***comprehensive discipline plans*** is the proactive use of techniques for the prevention and management of behaviour problems across the whole class. Reactive discipline strategies are the responses of teachers to students' problem behaviours as they occur. Individual behaviour management plans can be used to manage the specific behaviours of individual children. Home-school contracts or partnerships involve the teacher and parents working jointly together in managing the specific behaviours of individual children. These address behaviour problems across the whole class or in relation to individual children.

Class wide interventions

General classroom management: Teachers' concerns regarding behaviour management are somewhat different from those of parents. Teachers are principally aiming to ensure the best learning opportunities for all children in their classroom and this requires the development of a productive and positive learning environment that involves all children (Little & Hudson, 1998). Thus, classroom management encompasses not only behaviour management skills, but also group management, time management and organisational skills. Several teacher behaviours have been identified as characteristic of effective general classroom management (Little & Hudson, 1998). These are:

1. *Effective monitoring* - being aware of the behaviours of all students at all times and thus being well positioned for intervening early when problems arise. Specific behaviours that facilitate this include organising the physical environment to maximise observation and the teacher moving around the classroom during activities;

2. *Good time management and integration of activities* - seamless, flowing class activities, with maximum time on learning tasks;

3. *Contingent responding to individual behaviours* - with a focus on praise and encouragement, and minimal disruption to class activities for responding to misbehaviours and

4. *Involving of students in rule setting* - establishing class rules early in the year, displaying rules and referring to rules in responding to misbehaviours.

Comprehensive discipline plans: These are proactive behaviour management strategies that formalise the establishment of rules and behavioural expectations at the outset, create contingencies in advance for prosocial and problem behaviours, and may involve students in setting such contingencies (Little & Hudson, 1998). Examples of this include token reinforcement programs for improving classroom which ensure immediate and tangible consequences for behaviours and, when established, may involve students administering rewards to their classmates.

First Step to Success: This program developed by Walker and colleagues (1998) is designed for preschool children with early signs of conduct problems. Children are set daily behavioural criterions and provided with feedback and rewards for winning 80% of daily available points. The program is designed to be implemented over a three month period, initially by a specialist consultant, with the classroom teacher taking over the program in the maintenance phase. It is conducted concurrently with a home-based parenting skills training program. Evaluations from a randomised controlled trial indicate that at post-intervention children receiving STEPS show reductions in disruptive behaviours, increases in adaptive behaviours and greater engagement in learning activities. However, the sample evaluated was small, and long term outcomes are unknown.

The Good Behaviour Game: This universal program is designed for children in Grades 1-2 with the aims of reducing aggression, and improving children's compliance with classroom rules (Kellam et al., 1994). Children in each class are assigned to teams which receive points for prosocial behaviours, and deductions for disruptions and aggression. The game is played three times per week, with duration increasing from 10 minutes to 3 hours, and the frequency of rewards becoming intermittent. The program has been evaluated across multiple schools, with appropriate control conditions and six year follow up. Teacher and peer reports indicated improvements in aggressive behaviours, with maintenance to six years for those boys with initially high levels of aggression.

Individually tailored interventions

Reactive discipline strategies: Strategies that teachers employ for managing child behaviour as a response to a specific behaviours may be regarded as reactive discipline (Little & Hudson, 1998). Consistent with the parenting literature, and based on social learning principles, these are likely to be effective in reducing conduct problems to the extent that they reinforce prosocial behaviours, ignore minor misbehaviours and use systematic consequences for serious misbehaviours (Wilks, 1996).

Individual behaviour management plans: Children with significant behaviour problems may benefit from the development of an individualised behaviour management plan. Such plans are based on social learning principles, involve a functional assessment of problem behaviours, and are developed to address the specific antecedents and consequences of the child's behaviour. The success of such approaches for individual children in the classroom setting has been well-established (e.g. Kerr & Nelson, 1983; Schloss & Smith, 1994).

Home-school contracts: These tailored intervention strategies are most suitable for children with severe behaviour problems that occur across both the home and school settings, to ensure that the behaviour management techniques employed at school are supported, and not unintentionally undermined at home (Sanders & Dadds, 1993). Parents are usually informed of the child's achievements and problems at school via daily behaviour record diaries, and are trained to provide contingent reinforcement at home for appropriate behaviours in both home and school settings. Evaluations of these approaches indicate that these strategies result in significant reductions in problem behaviours in both settings (Sanders & Dadds, 1993).

Curriculum-based interventions

Interventions that employ the classroom curricula to address conduct problems are based on health education theory and typically focus on reducing violence or individual risk factors such as poor social-cognitive skills. Evidence-based examples of these types of interventions are outlined.

Bullying Intervention Program: This universal intervention was implemented in Norway across 2,500 students and 42 schools as part of a national campaign (Olweus, 1994). The intervention comprised an information kit provided to schools, parent information packages, videos for classroom viewing, and a questionnaire for the school to assess the extent of the problem. The approach was evaluated using a quasi-experimental design, and demonstrated substantial reductions in self-, teacher- and peer-reports of aggression, with clear evidence of a dose-response relationship. This intervention indicates the considerable potential for a relatively simple, cost-effective approach to reduce aggressive behaviours at the population level.

Second Step: This universal anti-violence prevention curriculum (Grossman et al., 1997) targets conduct problems in early primary school. Delivered in 30 lessons, it aims to improve social problem solving, anger management, empathy and impulse control, supplemented with a parent video component. Evaluated across 12 schools randomly assigned to intervention or control, significant reductions were observed in physical aggression at post intervention and maintained to six month follow-up.

Improving Social Awareness - Social Problem Solving: This universal program targets children making the transition from primary to middle school, and involves 20, 40-minute lessons provided twice per week (Elias et al., 1991). The curriculum provides social problem solving skills and teachers are trained to reinforce appropriate social problem solving in other contexts. Evaluations using a quasi-experimental design showed moderate effects at post intervention (with a dose-response relationship), but clinically significant reductions in delinquency, depression and self-destructive behaviours at six year follow-up.

Promoting Alternative Thinking Strategies (PATHS): The PATHS curriculum was developed by Greenburg and Kusche (1996) for use with deaf children, but has subsequently been implemented with standard classrooms, special education classrooms and as part of the Fast Track program for high risk children with conduct problems. This universal intervention focuses on self-control, emotional regulation and social problem solving, and is delivered through 100 lessons in primary school. Teachers are provided with an instruction manual, and parent letters and home activity assignments to engage parents. Four randomised controlled trials

Fast Track) demonstrate the robustness of this approach with reductions in aggressive behaviour, conduct problems and depression, and improved social problem solving skills maintained to two year follow-up.

Child-focused interventions

Several child-focused interventions have been developed for delivery in schools. These are typically out of class, group-based, social skills training interventions. The rationale and typical content of these programs has been described earlier. These programs all focus on children with early or established conduct problems, but vary considerably in length. They have been used in early and later primary school, and some include non-conduct problem peers in the groups to foster appropriate peer relationships.

Anger Coping Program: Developed by Lochman and colleagues (Lochman & Wells, 1996), this 12-week program has been evaluated with boys aged 9-12 years using a non-randomised design. While evidence was found of short term reductions in aggression on some measures (including independent observations), these effects were not maintained to three year follow-up.

Brainpower Program: This 12-lesson social-cognitive intervention for aggressive African-American boys in late primary school is based on attribution theory and focuses on the interpretation of social interactions (Hudley & Graham, 1995). It combined conduct problem and non-problem children in small groups. Evaluation using a randomised control design found reductions in reported and observed aggression at post intervention, but high rates of attrition were reported.

Interpersonal Cognitive Problem Solving: Designed for children in early primary school, this program involved 40, 20-minute daily lessons, with supplementary training for teachers or parents to support the program. Evaluated using a quasi-experimental design, improvements were reported for child behaviours and problem solving skills at post intervention, with maintenance at six and twelve months. A dose-response relationships was found, with children receiving the intervention across consecutive years showing greater gains than those who received it in one year only. Again, attrition rates were high.

Peer Coping Skills Training: This program is designed for primary school children with high rates of aggressive behaviour (Prinz, Blechman & Dumas, 1994). The program is delivered in 22 weekly sessions, with children needing to display behaviour meeting pre-specified criteria in order to move through the program. A randomised controlled trial indicated that reductions in aggressive behaviours were observed and reported at post intervention and maintained to six month follow-up.

Social Relations Program: This intervention combines 26 individual half-hour sessions and eight group sessions to teach aggressive 3rd grade African-American children appropriate social problem solving, anger control, and social interaction skills (Lochman et al., 1993). Evaluated using a randomised controlled trial, both boys and girls showed reductions in aggressive behaviour at post and 12 months follow-up.

Multi-component interventions

These interventions combine approaches and may address the treatment of conduct problems for children with clinical levels of disorder, with selective interventions for those who have been identified as high risk for disorder, and universal interventions for all students, regardless of current behaviour. This area of school-based intervention research has shown considerable growth in recent years, with several ambitious multi-component intervention projects underway. As most of these involve implementation over several years, outcome data is still sparse.

Fast Track: This is a well known example of a comprehensive school-wide approach to preventing the development and exacerbation of child conduct problems amongst high risk children (CPPRG, 1992). Fast Track is a multi-site collaborative intervention, which addresses behaviour across multiple settings (home and school). It engages multiple agents of change (parents, teachers, peers, and curriculum) and addresses key variables identified in the development and maintenance of conduct problem behaviours (training in parenting skills, teacher classroom management skills, child cognitive problem solving skills, and academic skills, with home visiting and individual case management). Fast Track is a long-term intervention strategy, commencing at school entry and provided continuously throughout the primary school years.

Fast Track is being implemented and evaluated with nearly 898 conduct problem and 385 control children in primary schools in four states of the USA. Results after one year of intervention indicate that treatment children show greater reductions in conduct problems than controls across multiple measures, and lower use of special education services (CPPRG 1992).

Linking the Interests of Families and Teachers (LIFT): LIFT is a 10-week multi-component intervention utilising social skills training, playground behaviour management, home-school communication strategies, and parent training (Reid et al., in press). Classroom strategies are adapted from the Good Behaviour Game, and communication between home and school is fostered by the use of parent phone-in line and weekly newsletters. Efforts to ensure that parents received the parent training intervention included flexible hours for group sessions, and mailouts of materials and home visits for missed sessions. LIFT was evaluated across 12 primary schools and 671 students in Grades 1 and 5, using a randomised controlled trial, with multi-method measurement. Results indicated that treatment children showed reduced aggression and more appropriate social behaviour at post intervention.

Montreal Longitudinal Experimental Study: This intervention combined a two year parent training intervention (average 20 sessions per family) and social skills training involving non conduct problem peers (9 and 10 sessions each year) for seven to nine year old boys with aggressive behaviours problems (Tremblay et al., 1996). Evaluated with 166 students across 53 schools randomly assigned to treatment or control, the intervention showed minimal initial effects. However, treatment effects strengthened over time, with significant reductions in problem behaviours at three years post intervention.

Seattle Social Development Project: This universal intervention for primary school children aims to increase school bonding and reduce aggression, adolescent health risk behaviours, school failure and poor parenting practices (Hawkins et al., 1991). It combines classroom management strategies, social problem solving skills curriculum, and optional parenting programs across grades 1-6. The program has been evaluated using a non-randomised design with 643 students attending 18 schools, with follow-ups to age 18 years. Significant results indicate improvements in child attachment to school and parenting behaviours, with reduced levels of aggression, acting out behaviours, and health risk behaviours, with maintenance to age 18 and evidence of a dose-response relationship.

Environmental interventions

These interventions attempt to bring about changes in the school system, organisation or climate to improve the behaviour and adjustment of all children. The milieu of the school can encourage or discourage conduct problems such as aggressive behaviour (Rutter et al. 1979). School environments that contribute to violent behaviours are characterised by high student numbers and overcrowding, poor design features that restrict monitoring of student behaviours, reduced capacity for avoiding confrontations and student anger, resentment and rejection of rigidly imposed school rules and regulations (National Research Council Report on Violence, 1993).

Schools that lack adequate resources, and have a climate that accepts or tolerates the presence of drugs, weapons, and gang activities may exacerbate existing conduct problems in students (Dadds, 1997). In addition, poor relationships between staff and a lack of consistency in approaches to behaviour management have been

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associated with increased rates of bullying and classroom behaviour problems (Frude & Gault, 1984; Pratt, 1973). Research with adolescents indicates that the social milieu of the school setting is related to mental health outcomes (Resnick et al., 1997; Rutter, 1979). School connectedness, or the extent to which students reported that they were treated well by school staff, were close to others, and felt that they were part of the school, has been identified as a major protective factor against health risk behaviours (Resnick et al., 1997).

Interventions that address the climate of the school may be based on the principles of the 'Health Promoting Schools Framework' (World Health Organisation, 1992). This approach argues that the health of students can be best supported by schools that involve all members of the school community (students, staff, parents, and the broader community) in creating an environment where effective learning can take place (Youth Research Centre, 2000). Interventions that are developed around Health Promoting Schools principles address behaviour through curriculum, school organisation and climate, by negotiation with and involvement of families, and by forming partnerships with health and welfare services and local community agencies (Youth Research Centre, 2000).

For the management of conduct behaviour problems, this approach would require ensuring that effective behaviour management strategies are employed in the classroom and playground and that liaison occurs between home and school. It would also require that appropriate behaviours are taught to children, using the curriculum to illustrate the consequences of misbehaviours, and that appropriate referral mechanisms are in place within the school or the broader community for children with severe problems. Intervention is usually driven by a school-based health promotion team who identify the key problems the school faces, aspects of school climate, curriculum, or partnerships that need to be addressed, and formulate an individual school health promotion plan. Interventions that aim to reduce children's conduct behaviour problems by altering the school environment are relatively new and there is a lack of data attesting to their effectiveness.

Child Development Project: This universal intervention for primary school students adopts a comprehensive educational reform model with the aim of improving students' attachment to the school, identification with the school's norms and values, and subsequently to the development of behaviour appropriate to these norms (Watson, Battistich & Solomon, 1997). This program aims to prevent the development and continuity of child psychopathology broadly (not just conduct problems) in students in grades 3 to 6. The implementation has involved 4,500 students in 24 schools across 6 school districts. While the program requires three years for full implementation, data collected at two years after its introduction showed significant reductions in marijuana use, vehicle theft and weapons, with effects greatest for schools with high levels of program implementation.

Primary Mental Health Project (PMHP): This selective intervention for primary school children with identified behavioural, emotional or learning difficulties involved a restructuring of mental health service provision within schools. (Cowen et al., 1996). Paraprofessionals were employed as child associates to work with children identified by screening processes. The associates met with the children (alone or in groups) for 20-25 weekly sessions across the year. Their work was supervised through weekly or fortnightly meetings with the school-based mental health professional to develop comprehensive treatment plans and set individual goals. Those children who failed to show improvements by the end of the year continued in the program for a second year.

This program has been extensively evaluated, but with poorly designed studies, leaving many questions unanswered. However, consistent effects indicate a successful reduction internalising problems and few, if any, improvements in externalising problems.

Evidence for school-based approaches

There is growing evidence attesting to the effectiveness of a broad range of school-based interventions for improving the behaviour and academic achievements of children with conduct problems (Sulzer-Azaroff & Mayer, 1977; Wheldall & Glynn, 1989). Interventions that improve the classroom management skills of teachers include contingency management techniques, such as the use of behavioural contracts (Glynn, Thomas & Wotherspoon, 1978), reinforcement for work completed (Scriven & Glynn, 1983) and physical reorganisation of classrooms (Krantz & Risley, 1977).

There is also good evidence of the effectiveness of child-focused interventions that provide social problem solving skills training to high risk children, and the use of curriculum to address violence and social skills. Comprehensive multi-component programs hold great promise, although definitive data regarding the overall impact of some programs are not yet available.

Interventions for changing the school environment to reduce child conduct problems are in their infancy. However, the universal nature of these strategies and the successes that have been obtained when these approaches have been applied to physical health outcomes (such as nutrition and exercise) indicates a potential that needs to be further explored.

Several themes are apparent in the school-based intervention literature that warrant comment. Several studies reported dose-response relationships highlighting the importance of ensuring optimal program reach and delivery. Also, many of the successful interventions were highly complex, required specialist input or the removal of the child from the classroom (e.g. problem solving skills groups), and required long term implementation. These factors make the interventions costly for schools to implement, and may hinder their uptake outside of experimental conditions. However, it is also clear that universal programs have the potential to reach large populations and impact on a wide range of outcomes, not just conduct disorder. Not all programs need to be long term, complex or costly to implement in order to be successful. As illustrated by the Bullying Intervention Program, lasting treatment effects may be possible with very simple, timely educational materials for schools.

Psychopharmacology

The prevailing opinion for the use of psychotropic medication for children with primary conduct problems recommends a conservative approach (Breggen, 1993; Dosseter, 1999), though for some carers, medications may carry high expectations of benefit (Dosseter, 1999). Most of the evidence for the use of pharmacotherapy for children who have conduct problems has emerged from treatment studies examining the effects of psychostimulant medication for children with a primary diagnosis of attention deficit hyperactivity disorder (ADHD). Other drug treatments (lithium, clonidine, neuroleptics, anticonvulsants, antidepressants) have been evaluated for use with children with conduct problems based on their apparently anti-aggressive properties with adult disorder groups (Vitiello & Stoff, 1997).

A brief overview of the state of the field will be presented, but clinicians are referred to recent reviews for a more thorough analysis of pharmacotherapy in this area (Campbell & Cueva, 1995; Campbell, Gonzalez & Silva, 1992; Connor & Steingard, 1996; Kruesi & Lelio, 1996; Werry, 1994). Dosseter's (1999) guide to the use of psychotropic medication provides a sound overview of the issues to be considered in drug choice and management.

Psychostimulants

The body of evidence for the effect of stimulant medication shows that, in children with a primary diagnosis of ADHD, co-occurring conduct problem behaviours are reduced. On the basis of objective, direct observational methods, weight-adjusted doses of 0.3 and 0.6 mg/kg of methylphenidate were shown to produce reduction in retaliatory aggression and non-compliance in laboratory, classroom and playground settings (Hinshaw, Henker, Whalan, Erhardt & Dunnington, 1989). The effect of methylphenidate on aggressive behaviour was examined in the first observational study in a naturalistic, non-research setting with mixed results (Gadow, Nolan, Sverd, Sprafkin & Paolicelli, 1990). While methylphenidate produced highly significant reduction in physical aggression, only a marginal reduction in verbal aggression was reported during a brief playtime (recess) compared with longer duration playtime (lunch).

There have been no controlled studies examining the effects of psychostimulants with children obtaining a primary diagnosis of conduct disorder or oppositional defiant disorder. McMahon & Wells (1998) cite two unpublished studies (Abikoff, Klein, Klass & Guneles, 1987; Klein, Abikoff, Klass, Shah & Seese, 1994) in which the researchers aimed to select children on the basis of a primary diagnosis of conduct disorder, in order to examine the effects of stimulant medication with this group. Despite their efforts, the majority of the sample had co-morbid ADHD.

Lithium

Two large scale double-blind placebo controlled studies (Campbell et al., 1984; Campbell et al., 1995) have examined the use of lithium with children obtaining a primary diagnosis of Conduct Disorder and displaying the specific symptom of severe aggression, with an affective component ('explosive' outbursts). In both studies, the sample comprised treatment-resistant in-patient samples of boys aged between 5 and 12 years. The group was randomly assigned to lithium, haloperidol or placebo. The results indicated that lithium and haloperidol produced clinically significant reductions in aggression, hostility and hyperactivity (as measured by the Children's Psychiatric Rating Scale), with twice as many children showing therapeutic benefits with lithium compared to haloperidol.

There is no evidence for the therapeutic benefits of lithium with more children displaying less severe conduct problem behaviours. Lithium can produce adverse side effects including weight gain, polyuria, nausea, tremors, ataxia and slurred speech. Lithium also has a low therapeutic/toxicity ratio with the need for recurrent blood level tests. There is a high risk of toxicity for children whose caregivers do not adhere to the medication regime.

Clonidine

Clonidine is increasingly used by clinicians to control irritability and explosive outbursts in children with conduct problems, due to its effects on adrenergic centres. Efficacy from controlled research for the use of Clonidine with this group of children is lacking.

Antipsychotic medication

The efficacy of antipsychotic medications has been demonstrated in several controlled trials (Campbell et al., 1984; Greenhill, Solomon, Pleak & Ambrosini, 1985), where it has been found to reduce aggression, fighting, explosiveness and hostility in a sample of boys displaying chronic severe conduct problems who have been resistant to other treatments. Antipsychotic medications may produce adverse side effects, including acute dystonic reactions, tardive and withdrawal dyskinesias.

Anticonvulsants

There has been one controlled trial of carbamazepine with a group of children receiving a primary diagnosis of Conduct Disorder (Cueva et al., 1996). There was no evidence of its efficacy over placebo in reducing aggressive or explosive behaviour, despite being delivered at optimal daily doses.

Antidepressants

There is no controlled evidence supporting the efficacy of antidepressants in the treatment of children with a primary diagnosis of conduct problems. There is a need to examine the role of the newer antidepressants focused on serotonin in the brain.

Overall evaluation

There is increasing support that stimulant medication produces therapeutic reductions in aggressive behaviour and noncompliance in children who are selected on the basis of a primary diagnosis of ADHD and have co-occurring conduct problem behaviours (Hinshaw, 1991). There is no direct controlled evidence that psychostimulants confer a therapeutic benefit for children selected with a primary diagnosis of conduct disorder. It is important to note that all studies evaluating stimulant medication were conducted with populations also receiving intensive psychosocial treatment. Thus, the key recommendation is that stimulant medication be trialled after or along with intensive psychosocial treatment (Kruesi & Leilo, 1996; Werry, 1994).

The limited use of lithium has been established in two controlled studies for treatment-resistant, in-patient samples of children displaying severe aggression with affective manifestations. Antipsychotic medications may be of use with conduct disordered children, but are not recommended as a first choice because of the high rate of adverse side effects.

There is no controlled evidence for the use the remaining pharmacological agents (Clonidine, neuroleptics, anticonvulsants and antidepressants).

Chapter 5

Challenges

Although the existing empirical literature is sufficiently well developed to enable general principles of clinical management of conduct problems to be articulated, there remain many unresolved issues concerning the delivery of programs and services for children with serious conduct problems or who are at elevated risk of developing such problems. This chapter draws together some persisting challenges and unresolved problems which professionals, researchers, and funding agencies will need to address to see a significant improvement in the number of children who develop serious conduct problems.

Emerging themes

There are several themes which have emerged in recent years in intervention research. These themes include: 1) an increasing emphasis on a public health perspective to child mental health problems, which stresses the importance of developing cost effective prevention initiatives targeting entire populations, rather than individual children or families; 2) the concept of levels of intervention, which argues for the idea that the strength of intervention available should vary according to known risk and protective factors, and stage of therapy and 3) a developmental perspective which seeks to identify key transition points in the family life cycle which may constitute periods of greater receptivity to intervention. These issues are elaborated below.

A preventive perspective in child and family mental health

Raphael (1993) argued that unlike the massive efforts that have gone into the prevention of physical diseases, the prevention of mental health problems has been neglected, despite increasing evidence that some forms of mental health problems can be prevented at a community level. Given the widespread nature of child mental health problems and the shortage of qualified mental health professionals who are available in the community to provide treatment services, a public health perspective becomes increasingly important. However, an effective prevention agenda needs to incorporate strategies which strengthen and promote the stability of family relationships as a central focus.

Levels of intervention

Increasingly, it is being recognised that despite the fact that conduct problems are determined by a range of risk factors, a variety of interventions of different intensity have been shown to be beneficial in the management of such children. While this evidence is strongest in the family intervention field, similar concepts of levels of intervention exist when applied to the management of conduct problems in schools. These vary in complexity along a number of dimensions including: the strength, intensity and scope of the intervention; the setting in which it takes place (home, school or both); the mode of delivery (self-directed, telephone assisted, individual, group); the target population (identified cases vs high risk children); who delivers the intervention (maternal and child health nurses, general practitioners, psychologists); and the cost of delivery. There is much to learn about the optimal combinations of strategies that may be required to effectively prevent or treat conduct problems in children.

A developmentally sensitive intervention

A life span perspective to intervention involves a recognition that families are dynamic systems that continually change throughout a child's life from infancy to late adolescence and beyond. It also reflects that, at different points in the life cycle, certain developmental, mental health and family problems are more common than at other points. As children and their parents and caregivers move from one developmental stage to the next, the developmental tasks and challenges facing them change, as does the nature of the risk and protective factors contributing to mental disorder. Problems can arise at any stage of development. If left untreated, they may multiply, intensify, and lead to even greater difficulties when the individual faces subsequent developmental tasks. Interventions targeting key life transitions have the potential to halt this 'snowball' effect.

One possible advantage of scheduling interventions at developmental transition points is that families are often more amenable to change at these times. Developmentally sensitive interventions, which equip families to deal with stressful life changes, reduce risk factors for mental health problems. For example, programs aimed at reducing children's problem behaviours and promoting social skills, initiated during the preschool and early school years, may prevent severe conduct disorders during middle childhood and later delinquent behaviours during adolescence. Since psychopathology can develop at any point in a child's development, it is unlikely that any intervention at a single point in time can prevent mental health problems for a lifetime. A life span perspective is particularly helpful for planning mental health services focused on the prevention of mental disorders.

A developmentally sensitive intervention is one that takes into account the current developmental competencies and characteristics of the individual and his or her

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social network and tailors the intervention to meet the cognitive capabilities, language proficiencies, activities, interests, preferences and aspirations of the age group (Forehand & Wierson, 1993; McCain & Mustard, 1999). Hence, a parenting intervention that is appropriate for a difficult preschooler requires substantial modification if it is to be successful with families of teenagers. Family interventions involving adolescent children must involve the teenagers more in family decisions, due to their increasing independence and autonomy, and their higher cognitive capabilities compared to younger children (Forehand & Wierson, 1993).

In summary, to enhance psychological well-being and to prevent mental health problems requires intervention efforts that take into account the changing needs of the individual and family over vulnerable life transitions. A developmental perspective highlights the importance of continuity and the integration of intervention services across the entire life span.

Issues in early intervention with conduct problems

While some progress has been made in developing effective intervention programs, there are several significant obstacles to effective community-wide programs. These include problems that relate to the nature of conduct problems themselves, structural obstacles relating to the organisation of health care and educational services for children and socio-political considerations, which affect children and their families. These issues have been addressed in the recent report commissioned by the National Crime Prevention (1999).

The nature of conduct problems

Early identification of at-risk children: Preschool children's behaviour itself is not a particularly effective index of risk status since there is a relatively high rate of disruptive and oppositional behaviour in early childhood in children who do not become antisocial in the long term. White, Moffitt, Earls, Robins and Silva (1990) found that five preschool predictors could be used to correctly classify 81% of subjects as antisocial or not at age 11 and 66% as delinquent or not at age 15, but there was a high rate of false positives. About 85% of children defined as antisocial at age 11 years did not develop stable and pervasive conduct disordered behaviour. Since it is difficult to accurately predict who among those at-risk will show conduct-disordered behaviour, there are likely to be many false positives and false negatives in a sample of high-risk children. However, the combination of known family adversity factors (e.g. poor parenting and marital conflict) in conjunction with a child's oppositional behaviour characteristics is likely to be effective in identifying high-risk children.

Relationship between child and parent problems: Children's behaviour problems and parental adjustment difficulties tend to co-vary. Even though a child may not be showing significant overt signs of maladjustment, the environmental conditions which give rise to subsequent problems may be operative within the family (Kazdin, 1987b; Patterson, 1982; 1986). A child may not display significantly disordered behaviour, although the parent does. This is no more apparent than in a household where the mother is depressed and there is significant marital conflict. Effective prevention programs may need to concurrently address adult personal and marital adjustment issues, as well as child issues, when these factors remain unchanged during the parenting intervention.

Changing nature of developmental advice required by parents: Another challenge for early intervention programs is the changing nature of the parenting advice required by parents to manage a childs' behaviour over the time of the child's development (Sanders, 1992; Sanders & Dadds, 1992). As children move towards adolescence, greater involvement by the child in family problem solving becomes possible. While specific compliance training, which teaches parents to issue clear, specific and enforceable instructions and to back them up with effective consequences (e.g. time-out), can be effective with young children, the same tactics used with teenagers are not appropriate and are less likely to be effective. The extent to which parents receiving early child management training make age appropriate adjustments as their child matures is not known. Interventions may need to prepare parents for future, yet to be encountered circumstances (e.g. preparing a child to start school), the importance and salience of which may not be immediately apparent to parents when their children are toddlers or preschoolers.

Interrelationships between different risk factors: The various family factors related to increased risk of conduct problems rarely occur in isolation from each other. While some families experience specific difficulties, it is more common for families to experience several difficulties simultaneously (Rutter & Quinton, 1984). Problems of unemployment, lack of social support and depression often co-occur as do marital difficulties and depression (Dadds, 1987; Rutter, Cox, Tupling, Berger & Yule, 1975). Family breakdown and social adversity are closely linked. Families most at risk for psychopathology have lower levels of participation in preschool programs for children, have more chronic health problems, have lower levels of appropriate utilisation of health care services, and are less interpersonally skilled at negotiating with authorities regarding their family's needs (Fergusson, Diamond, Horwood & Shannon, 1984). Socially disadvantaged families may be more difficult to reach through preventive programs. This may be an unavoidable reality in preventive programming in which families at the greatest risk of severe long term adjustment problems are the most difficult to recruit.

Recruiting and engaging distressed families: Children at greatest risk for the development of conduct disorders are those from families experiencing many stresses

(Offord, 1989; Robins, 1991) and who traditionally have not fared well in psychological interventions designed to treat conduct problems (Kazdin, 1987a). High-risk families are difficult to recruit and engage over time in prevention programs. A variety of strategies may be employed to recruit families, including: the use of media outreach; direct mail; using settings where parents with children in the eligible age group meet regularly or at least have some contact (such as daycare centres, playgroups, preschools, community centres, or contacts through family doctors). Possible strategies for promoting engagement include increasing the accessibility of the program while minimising the response cost to the participants. This can be achieved through the provision of: training in the home or at local community venues; prompts and reminder calls for forthcoming appointments; and incentives for clinic attendance and participation (e.g. free child care and transport, lottery tickets, or even cash payments).

Changing socio-demographics of childhood

Family breakdown: Parenting difficulties can contribute to marital conflict, which in turn can contribute to the development of behavioural problems in children (Emery, 1982; Grych & Fincham, 1990). With between one third and one half of western marriages ending in divorce (Glick & Lin, 1986), there is potential merit in considering programs which deal with the prevention of marital distress in premarried couples, as a possible means for decreasing the risk of subsequent behavioural disturbance in offspring (Markman, Floyd, Stanley, & Lewis, 1987).

Social adversity: A major challenge for early intervention programs is determining how to deal with parenting problems and child rearing difficulties that are related to the family's socioeconomic status. Families surviving on reduced incomes due to unemployment frequently experience problems of depression, alcohol abuse, and domestic violence (e.g. Warr, 1982). These parents may benefit from a variety of survival skills which, while not solving their financial worries, may enable the family to cope more effectively with their unfortunate circumstances (Sanders & Dadds, 1993). Targets for intervention may include learning to ask the right questions of welfare or social security personnel, coping with frustration and delays when dealing with bureaucracy and handling problems with landlords, significant others, parents, in-laws, ex-spouses, schools and police.

Childcare and female participation in the workforce: Australia has witnessed a steady increase in the number of mothers with young children participating in the work force. The proportion of all mothers with at least one child aged between 0-9 years participating in the workforce was 39% in 1981 but by 1991 had increased to 50% (Australian Bureau of Statistics, 1981, 1991). Many young children are now looked after by multiple caregivers. Some early problem behaviours like aggression occur in multiple settings and may complicate the implementation of parenting programs. Interventions may be difficult to get to families because both caregivers are likely to be outside the home. Programs need to target multiple caregivers and children in settings such as daycare and kindergarten. Some excellent examples of high quality daycare environments which incorporate behavioural strategies such as planned activities, incidental teaching and behaviour management routines have been reported (e.g., O'Brien, Porterfield, Herbert-Jackson & Risley, 1978).

Structural obstacles to early intervention

Domination of clinical models: Clinical models of service delivery dominate the landscape as far as children's mental health is concerned. Government agencies and health insurers give priority to the treatment of children who are already showing significant signs of disturbance, rather than to those with the potential to show future psychopathology. Changes in orientation are required in which more time and resources are directed toward the prevention of subsequent problems rather than to the amelioration of existing ones.

Part of the AusEinet project has been to address the reorientation of services. The model projects, the opportunities for early intervention and the obstacles that were found in the implementation of the projects, are described in a publication from AusEinet, available from the AusEinet website <http://auseinet.flinders.edu.au> and in hard copy (O'Hanlon et al., 2000).

Cost: One argument used to promote prevention and early intervention is that these programs are likely to be cost effective and reduce the costs of antisocial behaviour to the community. Although effective preventive efforts offer opportunities for better mental health, they are likely to be expensive to implement. A meaningful cost-benefit analysis of prevention and early intervention must distinguish between direct and indirect costs, that is, the costs borne by the health budget and those costs, emotional or other, borne by the families and children with significant psychopathology (Eisenberg, 1989). As Eisenberg (1989) argues, decisions should include a consideration of the human costs as well as the economic costs.

Training of mental health professionals: Associated obstacles in prevention and early intervention programs involve the training of practitioners, maintaining treatment integrity and coordinating the intervention across settings (Kazdin, 1987b). Mental health workers are likely to welcome a reorientation of services to an earlier and more preventive focus. Changes in the organisation, structure and priorities of teaching institutions are needed to give trainee practitioners more supervised practical experience in delivering prevention and early intervention programs.

'Do no harm': Some preventive efforts have had negative effects on their participants such that children who were not at risk for antisocial behaviour before a program, were at risk after their participation (Fo & O'Donnell, 1975; Davidson & Wolfred, 1977). This is a more common problem when preventive efforts include the wider community (Kazdin, 1987b). Careful evaluation and monitoring of programs must be maintained at all times to ensure that deleterious effects are minimised and counteracted if present.

Towards a family-based technology

Notwithstanding the organisational and structural obstacles cited earlier, we believe there is reason to be optimistic about the possibility of reducing antisocial behaviour in the community through the development of comprehensive, family-based intervention strategies. A series of questions need to be addressed in considering the practical implementation of early intervention programming. These questions address the who, what, when, where and how of prevention.

Who should receive intervention programs? There is considerable support for the notion that early intervention programs would be more effective if they only targeted groups of low income, disadvantaged parents whose children are at greater risk for developing conduct disorder. Apart from major difficulties in identifying these families, it is believed they will be easier to access and less stigmatising for them if programmes targeted the whole community rather than setting up programs exclusively for a defined group.

What goals should programs have? Prevention and early intervention programs should promote the behavioural and social competence of children as well as parents' competencies. For children, programs may promote competence in problem-solving, conflict resolution, language proficiency, prosocial behaviour and the expression of affection and nurturance. Longitudinal research has identified several parenting variables (e.g., parental monitoring, supervision and disciplinary practices) related to the development of behavioural disturbance in children, but it is by no means clear which specific parenting competencies should be the focus of interventions, particularly in families with multiple adversity in their lives.

There is a great risk in using a 'shot gun' approach in which the family is offered interventions for every difficulty they face. An individual family may have problems with some or all of the following: child management; parental self control and anger management; family management (housekeeping, managing family finances); attention to children's health care needs (immunisation, use of safety restraints, chronic ear infections); and promotion of children's intellectual or academic ability. Families at varying risk for the development of the disorder are likely to require different combinations of interventions. It is tempting to conclude that families with more problems will require more intervention. This approach will not enhance the scientific basis of interventions and it is difficult anyway due to resource problems and limitations in families' capacities to address multiple problems concurrently (Dadds, 1989). It is quite possible that a more limited focus, which addressed a subset of problems adequately, may have a major preventive effect, even though not all of a family's problems have been confronted.

The fundamental vehicle for reducing the community prevalence of children's conduct problems is a form of parental self-sufficiency training. This involves a commitment to parental self-management, which involves increasing parent's personal resources (knowledge and skills) to handle child rearing and parenting issues, and to increase their sense of perceived personal control over their lives and sense of competence. It is hypothesised that these changes will strengthen family life, well-being and social functioning of family members, decrease a family's reliance on the health care and social welfare systems, and reduce the incidence of antisocial behaviour problems in children.

The provision of high quality parenting advice dealing with commonly encountered difficulties parents experience in raising their children should be central to any preventive program. Parents are more likely to implement empirically validated advice with their children if the parenting guidance is specific, refers to modifiable aspects of the child's, parent's or family's behaviour, is acceptable to parents, and is not associated with any side effects which may be detrimental to the child, parents or other family members.

A structured parenting advice programme should be chronologically sequenced and should detail the specific parenting steps required in overcoming specific problems. Such a structured programme can be divided into five broad content areas corresponding to the major concerns of at risk families: developmental and behavioural problems; marital and relationship problems; family management skills; interacting with professionals and community agencies; and interacting with relatives, friends and neighbours. Each content domain covers a variety of topics. For example, the developmental and behavioural problems section includes feeding and sleeping difficulties in infants, temper tantrums and aggression, and problems taking children shopping or visiting. The section on interacting with community agencies teaches parents how to access and utilise health care and welfare services.

Another important intervention target is marital conflict, a known risk factor in the development of conduct problems. Some evidence has shown that premarital interventions which include communication skills training, problem solving and intimacy enhancement, can decrease the likelihood of relationship breakdown (Markman, Floyd, Stanley, & Lewis, 1987) and may potentially decrease the risk of child behavioural problems in offspring (Dadds, Schwartz & Sanders, 1987). The long-term effects of adjunctive interventions (such as marital enrichment programs) on parenting have yet to be determined.

When should programs be commenced? How early should preventive programs begin? Is there an optimal period when families are more receptive to advice or when intervention is most effective? Unfortunately, there are no clear answers to these questions. Since early behaviour problems predict subsequent conduct problems, there is increasing empirical justification for providing interventions prior to school entry. Parents have had a shorter history of maladaptive interchanges with their children, so a child's behaviour problem is less severe and there is greater developmental plasticity at this age.

The peak period of interest in learning about parenting is during toddlerhood when infants become mobile and start to explore their environment. Many parents start to discipline their children between the ages of 10-12 months and 24 months, promoting the introduction of preventive programs at this time. There is a long established tradition of parent education and involvement in children's preschool education through playgroups, kindergartens and preschools. Parents are motivated to learn how to handle children's behaviour at this time and prevention services can be offered as a part of 'well child care', with no stigma attached. Other transition points in the family life cycle may be associated with increased receptiveness, such as mother recommencing work, child starting preschool, primary school or high school or child becoming physically ill.

A potential risk in targeting toddlers is that many children who eventually do not have any adjustment problems, display oppositional and disruptive behaviours during toddlerhood. Involvement in preparation for parenthood programs is not a problem as long as participation does not produce negative side effects and the costs associated with the program are acceptable to the community. Alternatively, children who are showing signs of adjustment and learning difficulties in the first two years of primary school could be involved in school based programs which include a family intervention (e.g., Hawkins, VonCleve & Catalano, 1991).

Where should interventions be delivered? There should be multiple entry points to a program where parents can sign on and receive materials from authorised participating agencies in the community. Parents on entry will be informed of various options and back up services available at request. Entry into a program needs to occur at points of contact with families. This may include the child's family doctor, creche and day care facilities, kindergarten, preschools and community health centres. Depending on the level of intervention required by a family, this might include home visits.

How should the intervention be delivered? Families at differing levels of risk are likely to need different interventions. While, from an equity and social justice perspective, all families have the right to access knowledge and that may promote their child's well-being, children in families with high levels of social adversity are at significantly elevated risk of developing behavioural disorders. These families are likely to need more complex interventions that address known risk variables. If a family has multiple risk factors, just how many need to be addressed is unknown. From a cost effectiveness perspective, it is essential that the least cluttered, most economical procedure is developed.

Wide scale programs are unlikely to be implemented in the community if interventions are perceived to be too costly in terms of professional time. Research needs to identify effective minimal interventions to facilitate the wide distribution of parenting information. Some of the lessons from the health promotion field may be used to develop, market and package training modules for parents.

Economical and cost efficient methods of intervention need to be developed and evaluated. There is ample evidence that active training procedures (e.g. providing parents with specific instructions or guidance, modelling, rehearsal and feedback) are effective ways of teaching parents to use behaviour change techniques, in either individual or group training formats. The effectiveness of less active training methods (e.g. video demonstrations and written materials without professional backup consultation) needs further evaluation. Video demonstrations of procedures can be as effective as therapist assisted training in teaching parents of oppositional children to modify problem behaviours (Webster-Stratton, 1982), indicating the potential effectiveness of video, particularly when supplemented by written materials.

Other issues

Length of intervention: It is not known whether programs should be short-term and intensive, conducted when children are at a particular developmental level (e.g. toddlers) or more protracted over time so families receive periodic assistance as their child approaches a developmental task or transition (e.g. starts school). Advantages of a time-limited program are that it is easier to keep families engaged, there are fewer changes in program personnel (so continuity of care is maintained) and it is easier to secure funding support. In a protracted program, parents can receive active guidance and support over a longer time span and at a time when they are confronting parenting tasks addressed by the program (e.g. preparing a child to start school).

Strength of intervention for different groups: An important yet unresolved issue is the strength of intervention necessary to prevent the development of conduct disorder in groups at differing levels of risk. Kazdin (1987a) argued that it is fruitless offering low strength interventions to families where the child had already developed Conduct Disorder. When dealing with high-risk families, whose children have yet to develop the disorder, the number of risk variables which need to be addressed for a prevention program to be effective, is not known.

It may be necessary to provide more than child-focused parent training interventions, especially when a parent is depressed or when there are marital difficulties or high levels of parental stress. Techniques such as cognitive therapy, problem solving training and stress management procedures may effectively complement parent-training strategies. However, there is conflicting evidence concerning the necessity of adjunctive interventions. Ultimately, the strength of intervention issue can only be resolved empirically. The ultimate question posed by Paul (1969) in relation to treatment evaluation is also pertinent to the prevention area. "What treatment, by whom, is most effective with this problem, under these set of circumstances, in this setting, and how does the treatment effect come about?" (Paul, 1969 p.44).

Delivery and coordination of services: A variety of professional groups are interested in prevention services, including psychologists, paediatricians, psychiatrists, nurses, nutritionists, educators, social workers and community nurses. This multidisciplinary interest creates its own problems in terms of approach, conceptual frameworks, paradigms and professional responsibilities. A comprehensive prevention program will need to draw on the expertise of these groups.

Dissemination: It is vital that early interventions be developed in a form that can be used subsequently by other groups and communities. An important issue is the extent to which a potentially effective intervention is utilised by the professional community. The conditions under which a disseminated intervention remains effective need to be determined.

Limitations of family-focused approaches: Some authors argue that the characteristics of families that give rise to crime and antisocial behaviour are so complex and difficult to change (e.g. poverty, high crime neighbourhoods, alcoholism and adult criminal behaviour) that prevention needs to focus directly on the child through specialised preschool or daycare programs, or through school based interventions. However, failure to change the child's family environment may lead to an erosion of gains that are evident while a child attends an enriched preschool environment, as illustrated by Honig, Lally and Mathieson (1982).

Developing quality daycare and education environments for children and attempts to assist the family should be seen as complementary rather than as mutually exclusive aims. Other researchers have argued that multilevel, multicomponent prevention programs conducted in collaboration with families, schools and communities are necessary to promote competence in children (Weissberg et al., 1991). Ultimately, rigorous longitudinal research will identify those components of a prevention program that are necessary and sufficient for reducing the incidence of conduct disordered behaviour in the community.

Another issue to be addressed is the influence of low socioeconomic status. Families caught in the poverty trap and living in inadequate housing conditions in high crime areas may be extremely difficult to engage in any prevention program. The need to intervene at a political level is apparent. However, political level interventions designed to reduce poverty and social disadvantage, while laudable, may not have a significant impact on the prevalence of children's antisocial behaviour.

Conclusion

The present discussion highlights the importance of developing a technology of family focused early intervention. Such interventions have the potential to significantly reduce the prevalence of children's conduct problems in the community. An effective program needs to give detailed attention to organisational, structural and clinical obstacles that could hamper its delivery. Programs may fail to adequately address the problems of multidistressed families who are at elevated risk for the development of conduct disorder, may lack the necessary comprehensiveness required to deal with a family's problems and may fail to address risk factors other than inadequate parenting that place a family at risk.

A rigorous process of program evaluation must accompany any theoretically derived early intervention programs to ensure that limited resources are not squandered. The specific effects of the program on the child's behaviour and development, the parent's adjustment and the consumer's satisfaction with the intervention must also be assessed. It is vital that programs be designed in such a way that potential negative side effects are monitored and counteracted. Assuming successful outcomes are possible, detailed consideration should be given to methods of effective dissemination of the knowledge gained in the development of early intervention programmes, as these are early days yet.

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Appendix 1

Rating scales

Child behaviour rating scales

The Child Behaviour Checklist

The Child Behaviour Check List (CBCL; Achenback & Edelbrock, 1991) is a 118 item parent-report measure of general symptoms in children aged between 2 years and 18 years. Parallel forms have been designed for teacher use and a youth self-report measure for older children has also been developed (Child Behaviour Check List-Youth Self-report Form for children aged between 11-18 years). The parent form comprises two checklists; one completed by parents of children aged 4 years to 16 years and the other completed by parents of children aged 2 to 3 years. The instrument is comprised of two scales. The Problem Scale provides an assessment of 8 narrow-band syndromes (e.g. withdrawn, somatic complaints, anxious/depressed, social problems, thought problems, attention problems, delinquent and aggressive behaviour), which are further summarised into two broad-brand syndromes (Externalising and Internalising scales). A Total Problem score may also be derived. The Competence Scale is a 20 item parent-report measure of the child's functional competence over the past 6 months in three areas: activities, social and school. It has highly acceptable convergent validity and effectively discriminates between different clinical groups (Bickman, Nurcombe,Townsend et al., 1998).

Eyberg Child Behaviour Inventory

The Eyberg Child Behaviour Inventory (ECBI; Eyberg & Pincus, in press) is a well-researched narrow-band instrument, developed to assess the extent of conduct problems per se. It is a 36 item inventory of parental perceptions of disruptive behaviour in children aged 2 to 16 years, based on current norms. It incorporates a measure of frequency of disruptive behaviour, rated on 7-point scale (Intensity Scale), and a measure of the number of disruptive behaviours that are a problem for parents (Problem Scale). The ECBI has acceptable reliability co-efficients (test-retest reliability r=.86; internal consistency r=.94) (Bickman, Nurcombe, Townsend et al., 1998). The ECBI is sensitive to the effects of intervention (Webster-Stratton &

Hammond, 1997), allowing the tracking of behaviour over time. However, a potentially serious limitation of the ECBI is the lack of discrimination between conduct problems and other co-morbid conditions. That is, children who score in the clinical range on the ECBI are likely to be a heterogeneous group who may present with Attention Deficit Hyperactivity Disorder, Oppositional Defiant Disorder and Conduct Disorder. The unidimensional assessment of disruptive behaviours limits its utility as a broad band instrument (McMahon & Estes, 1997).

The Revised Behaviour Problem Checklist

The Revised Behaviour Problem Checklist (RBPC; Quay & Peterson, 1983) is an 89 item broad-band measure of the symptoms of behavioural and emotional disturbance in children, as reported by parents or teachers. The instrument is composed of 6 factors, which enables the clinician to identify dimensions of deviant behaviour (Conduct Disorder, Socialised Aggression, Attention Problem, Anxiety Withdrawal, Psychotic Behaviour and Motor Excess). The instrument is based on current norms and has been found to significantly discriminate between different diagnostic groups. The available reliability data (test-retest and internal consistency) are considered to be less than adequate (Bickman, Nurcombe, Townsend et al., 1998). The RBPC has a limited number of dimensions of child behaviour problems and omits an assessment of pro-social behaviours or competencies, which makes it less comprehensive than the CBCL.

A recent report on measurement systems for child and adolescent mental health (Bickman, Nurcombe, Townsend et al., 1998), identified two additional general symptom checklists that may be used with this population: Behaviour Dimension Rating Scale (BDRS; Bullock & Wilson, 1989) and the Pediatric Symptom Checklist (PSC; Murphy & Jellinek, 1985).

Each instrument is a parent-report measure of behavioural and emotional symptomatology in children. The BDRS is a 43 item instrument, in which symptoms are rated on a 7-point scale across the domains of aggression, inattention, social withdrawal and anxiety. The PSC is a 35 item screening instrument of behavioural and emotional symptomatology. Both instruments are based on current norms, have acceptable reliability and discriminate effectively between diagnostic groups. The BDRS has not been adequately validated in contrast to the PRS, which has acceptable convergent validity.

Parenting and family factors

Depression-Anxiety-Stress Scale

The Depression-Anxiety-Stress Scale (DASS; Lovibond & Lovibond, 1995) is a 42 item questionnaire which assesses symptoms of depression, anxiety and stress in adults. The scale has high reliability for the Depression (.91), Anxiety (.84), and Stress (.90) scales, and good discriminant and concurrent validity (Lovibond & Lovibond, 1995). There are a number of conceptual issues concerning the dimensional nature of emotional syndromes, and the relationship between different negative emotions, which are discussed more fully in the DASS manual (Lovibond & Lovibond, 1995).

The Parenting Scale

The Parenting Scale (PS; Arnold, O'Leary, Wolff & Acker, 1993) is a 30 item questionnaire, which measures three dysfunctional discipline styles in parents. It yields a Total score and three factors: Laxness (permissive discipline), Overreactivity (authoritarian discipline, displays of anger, meanness and irritability) and Verbosity (overly long reprimands or reliance on talking). The scale has adequate internal consistency for the Total score (.84), Laxness (.83), Overreactivity (.82) and Verbosity (.63), and has good test-retest reliability (r=.84, .83, .82 and .79 respectively). The scale has been found to discriminate between parents of clinic and non-clinic referred children. It correlates with self-report measures of child behaviour, and with observational measures of dysfunctional discipline and child behaviour (Arnold et al., 1993).

The Parenting Sense of Competence Scale

The Parenting Sense of Competence Scale (PSOC; Gibaud-Wallston & Wandersman, 1978) is a 16 item questionnaire which assesses parents' views of their competence on two dimensions: satisfaction with their parental role and feelings of efficacy as a parent. Satisfactory levels of internal consistency have been found for the Total, Satisfaction and Efficacy factors (r=.79, .75 and .76 respectively).

The Parenting Problem Checklist

The Parenting Problem Checklist (PPC: Dadds & Powell, 1991) is a 16 item questionnaire, which measures inter-parental conflict over child rearing. It rates the parent's ability to cooperate in family management. Disagreement over rules and discipline, open conflict about child rearing issues and the extent to which parents undermine each other's relationship with their child is measured. The PPC has moderately high internal consistency (.70) and high test-retest reliability (.90).

Abbreviated Dyadic Adjustment Scale (ADAS)

The ADAS (Sharpley & Rogers, 1984) is an abbreviated seven item version of the 32 item Spanier Dyadic Adjustment Scale (Spanier, 1976). It is a measure of the quality of dyadic relationship adjustment. The ADAS reliably distinguishes between distressed and non-distressed couples on relationship satisfaction, drawing upon aspects of communication, intimacy, cohesion and disagreement. No items on child-rearing issues are included. The measure has been found to be moderately reliable (=.76). An item total correlation of .57 indicates that the items all reflect dyadic adjustment, and inter-item correlations of .34 to .71 indicate that no items are redundant (Sharpley & Rogers, 1984).

Appendix 2

Functional assessment of problem behaviours

Classification of target behaviours

Excesses: Behaviours that occur at such high frequency, intensity, or duration that they are problematic in the setting in which they occur.

Deficits: Behaviours that occur at such low frequency, intensity or duration that they are problematic in the setting in which they occur.

Inappropriate Stimulus Control: Behaviours that occur at a reasonable frequency, intensity or duration and are adaptive but are elicited by an inappropriate stimulus.

Assets: Behaviours that are developmentally and socially appropriate and constructive.

The definition and steps comprising a SORCK analysis

(S) Stimulus

Historical antecedent stimuli that historically precede the target behaviour, increase the likelihood that it will occur, but do not elicit the behaviour directly.

Contextual stimuli that occur concurrently with behaviour and increase the likelihood of it occurring.

Immediate stimuli that occur immediately prior to the target behaviour and directly elicit its occurrence.

(O) Organismic

Variables that moderate the relationship between antecedent stimuli and target behaviour and are characteristic of the current state of the organism; for example, illness, cognitions or affect.

(R) Target behaviour or response

The behaviour of interest; the subject of the analysis.

(C) Consequences

Immediate stimuli that occur immediately after the target behaviour that alter the likelihood of recurrence of the behaviour; the effects or changes in the environment produced by the target behaviour.

Long-term or delayed changes produced by the target behaviour that are not immediate, do not directly affect the likelihood of its recurrence, but influence contextual variables that may be indirectly related to the recurrence of the behaviour.

(K) Contingencies

Hypotheses about the relationships between the antecedent and consequential stimuli and the target behaviour of interest.

Appendix 3

A practical approach to the treatment of conduct problems

This section introduces a practical approach to the management of children with conduct problems. Reports of clinical trials documenting the effects of family, child and school based intervention programs often mask the complexity of the therapeutic process issues involved in successful intervention. In addition to relevant theoretical and conceptual knowledge on psychopathology, family relationships, life long human development, principles and techniques of behaviour, and attitude and cognitive change, practitioners must be interpersonally skilled. They require well-developed communication skills, with an appropriate level of training in the theory and principles of empirically supported cognitive-behavioural interventions targeting the family, the child and the school environment. Working with children with conduct problems and their families can be a professionally demanding process as practitioners are often required to deal with high levels of family distress and process issues, such as client defensiveness and resistance. These issues need to be managed appropriately. In this section, a practical approach to case management and the principles of effective intervention are discussed.

The intervention approach described here is designed to be delivered within both a primary care and mental health context. The approach may also be of relevance to school guidance and behaviour management staff as it is recognised that many children with disruptive behaviour difficulties are first identified and need to be managed within a school context. The approach below provides a general overview of the key consultation tasks involved in the management of conduct problems. It is not intended as a detailed practitioner manual as these are available elsewhere. The approach draws heavily on models of cognitive-behavioural intervention for working with conduct problem children and their families, as this approach has the strongest empirical support and should be viewed in most cases as the preferred approach to managing these children.

The management of children's conduct problems involves a number of additional consultation tasks which are outlined below.

Consultation Task 1: Determining the referral context

In most instances, children with significant conduct problems will come to the attention of a practitioner either through a referral from some other practitioner or directly from the parent themselves. Children with conduct problems rarely self refer. In some circumstances, the referral to a practitioner (e.g. school guidance officer) may come via a teacher or other school personnel. In each case, it is important to contact the child's parent to ensure that there is an appropriate mandate from the child's parent to proceed with any subsequent intervention.

Consultation Task 2: Creating a therapeutic alliance

Intervention is most likely to be successful if the practitioner establishes a trusting collaborative relationship with the child and his or her parent. Several authors have discussed some of the process issues involved in working with the families of conduct problem children and ways of establishing collaborative working relationships. These sources can be referred to for more detailed information (Prinz & Miller, 1996; Lawton & Sanders, 1994; Webster-Stratton & Herbert, 1994).

Consultation Task 3: Arranging an appropriate consultation environment

The clinical encounter typically begins with an interview, which is usually initiated by the child's parents (typically the mother). To create an appropriate interview environment, where the parent and child feel comfortable and where the child can be safely supervised, involves attending to both psychological issues and the physical environment.

Waiting rooms need to be designed specifically for children of different ages as well as for adults. This involves having available a suitable variety of age appropriate toys and reading materials. Toys should be selected so they are robust and have no small moveable parts that can be easily swallowed by young children. It is essential to minimise the amount of time parents with young children have to wait before being seen. Young children need supervision at all times, and while parents normally are expected to provide such supervision, the watchful eye of office staff can prevent accidents and wandering. In the consulting room, a box of toys should be available for use by children.

The interview provides the initial context for the assessment of the nature and significance of the child's behaviour problem. It is essential to determine whether the child's behaviour is within normal developmental limits or represents a significant enough deviation from normal development to warrant further assessment and intervention. In both situations a parent may become distressed by the outcome and require at least some counselling, reassurance, and support. The practitioner must determine through a combination of systematic inquiry and direct observation of parent-child interaction, whether the problem is best dealt with by the practitioner or referred to more specialised services.

Clinicians should avoid making decisions about how to intervene in a child's life without adequately assessing the child's own unique perspective of the issues at hand. While a child's parent or guardian has legal and moral responsibility for the child's well being, competent clinical practice requires that children's views are sought and taken seriously. Children of different ages and developmental levels vary enormously in their ability to provide reliable and valid information about a problem. Useful suggestions on interviewing children are discussed by Mohay (1997).

Consultation Task 4: Selection of assessment tools

In Chapter 3, several reliable and valid parent report and child report measures were discussed. These may be incorporated into the assessment. This step involves selecting appropriate assessment tools to complement the clinical interview and direct observations. These same measures may serve as a basis for evaluating the effects of the intervention. Hence, they might be readministered following the intervention to determine the extent of change observed in both the child's symptoms and relevant risk factors.

Consultation Task 5: Behaviour monitoring

Assessment of a child's behaviour problem should involve taking a measure of the pretreatment strength of the behaviour/s causing primary concern. There are several useful observational tools that can be used by parents at home following a brief explanation in the clinic. As discussed in Chapter 3, there are many ways to clarify behaviour problems. One can obtain a narrative account of a typical example of the behaviour and the conditions under which it occurs (antecedents and consequences of the behaviour). How often the behaviour occurs (frequency tally), and how long it lasts (duration record) can be recorded, or duration can be estimated by counting the number of defined time intervals in which the behaviour is present or absent (a time sample record).

As outlined in Chapter 3, a variety of specialised self report assessment tools have been developed for a comprehensive and detailed assessment of a child's and the family's adjustment. The practitioner can complement the clinical assessment with selected self-report measures appropriate to the referral problem. The interpretation of standardised tests requires training in the interpretation of psychometric assessment. The advice of clinical psychologists can be sought if these assessments are to be used.

Consultation Task 6: Systematic observation of the child

This involves arranging a situation where the child can be directly observed interacting with parents, siblings or peers in the natural environment. Depending on the specific nature of the referral problem, observation tasks can be designed to gain a clear picture of the factors that trigger and maintain problem behaviour. This might be done in the home or at school. More detail on use of behavioural observation can be found in Sanders and Dadds (1993).

Consultation Task 7: Discussion of assessment findings and case formulation

The next step involves sharing with parents (and where appropriate the child), the results of the assessment, discussing the conclusions about the nature, extent and causes of the child's problem behaviour, and the recommended course of action.

Consultation Task 8: Determining the family intervention required

The next task is to determine the interventions or combinations of interventions required to resolve the problem. These interventions developed for managing conduct problems vary in complexity and clinical skill required to carry them out. The practitioner must determine, on the basis of the available assessment data, what interventions the child requires. In most cases, some kind of parent training will be essential and should be the initial focus of the intervention.

Consultation Task 9: Determining the school intervention required

Liaison with a child's teacher is often helpful whenever parents or the child report significant concern about the child's adjustment at school. A school intervention will not be needed in all cases, however, it may be considered under the following circumstances:

1. Serious disruptive behaviour occurs both at home and at school, or only at school, but not at home (much less common);
2. Significant learning difficulties reported by the child's current teacher or identified through other developmental assessments;
3. The child's teacher is seeking practical guidance or advice on how to deal with the child's behaviour at school;
4. There is an imminent risk of suspension or exclusion from school;
5. The child is either a perpetrator or victim of bullying and
6. The child's parent is in conflict with the school.

It is strongly recommended that close liaison between the school's guidance officer, counsellor or behaviour management teacher is established, so that additional support for both the child and the child's teacher in carrying out a program is available. In all cases, the school based behaviour management interventions involve liaison with the child's parent.

Some evidence shows that the positive effects of parent training on children's behaviour can generalise to the school setting. Interventions, which focus on home management first, should establish liaison with the child's teacher to assess whether changes observed at home also occur at school. The practitioner needs to determine, in consultation with the school, the type of intervention which is likely to be appropriate. As outlined in Chapter 4 these interventions may include individual and group contingency management programs, peer reinforcement programs, home-school behaviour contracts, programs that reinforce academic behaviours incompatible with disruptive behaviour, and individual contingency contracts. The type of program required will depend on the circumstances.

Consultation Task 10: Implementing an intervention plan

This involves the implementation of the specific intervention plan by child, parent and significant others with regular monitoring and feedback by practitioner. The intervention plan is refined as required during subsequent consultations.

Consultation Task 11: Terminating

This involves preparing the child and the family for the termination of therapy. It may include a gradual phasing out of therapy.

Consultation Task 12: Arranging follow-up contact

The practitioner should arrange to check that any changes are maintained. Some children with severe conduct problems may require ongoing treatment over a period of time with periodic review by the practitioner for ongoing support or advice.

Early detection and management in primary care settings

The majority of children with conduct problems will not present to a mental health practitioner. Indeed, the Western Australian Child Health Survey (Zubrick et al., 1995) showed that the majority of children with such problems contact their general practitioner or teacher about the problem, at least as a first port of call. For many, it will be their only port of call. Hence, as a practical matter, it would be useful and effective if the primary care system is geared to deal with such children.

There are two types of intervention in primary care that are particularly relevant to the management of conduct problems: anticipatory well child care and brief behavioural counselling. These strategies are discussed below. For more detailed information about a model of primary care intervention for behaviour problems, see Turner, Sanders and Markie-Dadds (1999).

Anticipatory developmental guidance involves providing parents with information and advice about normal child development, including how to promote healthy development, what to expect of children at different ages, how to handle developmental transitions and milestones, when to have children immunised and so on. The approach begins during pregnancy and continues throughout the child's development through to adolescence. The approach operates on the assumption that all parents require some information about children's development, and that the provision of targeted advice appropriate to the child's developmental level is useful to parents.

Within this category parents often find two types of books useful, particularly those which deal with normal child development and that focus on typical changes that occur in children's behavioural, emotional, motor, language and cognitive capacities during childhood. Some books focus on a narrow age range. Relatively few cover the entire child and adolescent period. These books are written specifically for parents by either psychologists or paediatricians, or both. They vary enormously in quality, specificity of advice, and the extent to which they draw on contemporary theories and knowledge about child development.

There are other reading materials are more problem focused and deal with specific behaviour problems or developmental tasks. There have been some useful books written for parents on topics such as bedtime problems, shopping trips, disobedience, feeding difficulties and so on. There are many parenting books on the market. They provide conflicting advice. Most have not been systematically evaluated, even though the ideas presented may draw on research findings. Consequently, it is unknown, with a few exceptions, how effective the advice provided actually is.

Brief behavioural counselling in primary care

Another intervention that may be useful, involves combining written information and advice about how to manage a specific problem with brief skills training. Research into parent training has shown that many parents require systematic training involving modelling, rehearsal, and receiving feedback from the clinician to actually implement parenting advice. Behavioural counselling is useful when a child's problem can be defined in term of discrete behaviour (e.g. temper outburst, bedtime crying, whining or demanding). However, when other family adversity factors such as marital discord, depression or overwhelming stress are present additional interventions are required.

The approach involves the following steps:

1. Obtain a developmental history and examine the child to determine that there are no specific organic problems that require concurrent treatment.

2. Clarify the parent's goals and their appropriateness concerning the child's behaviour. Define the target behaviours that are to be the focus of the intervention. The definition has to be sufficiently clear so that the behaviour can be consistently monitored once a program begins.

3. Obtain a baseline recording of the strength of the problem behaviour. This involves asking the parent to keep a record, using either a frequency, duration or time sampling record for a 7-10 day period. Over this period, it should become evident how much variation there is from day to day, and troublesome days or times of the day can be confirmed.

4. Share your conclusions about the nature, significance, and causes of the problem behaviour with the parent and, where appropriate, the child. This involves also clarifying the parents' views on the nature and causes of the child's problem in a way that allows a common understanding to emerge.

5. Provide specific information and advice about how the parent should handle the present problem. The specific advice given will vary depending on the nature of the problem.

6. Rehearse the selected strategy. This is an important component of the intervention and involves three steps. First, the clinician models the correct implementation of the procedure, while the parent plays their child. Next, the parent practices implementing the procedure while the clinician play the role of the child. Third, the clinician gives the parent feedback on how she handled the situation. Finally, the parent practices the procedure again, attempting to incorporate the feedback, until a satisfactory level of mastery is evident.

7. Ask the parent to implement the agreed management procedure. It is advisable that both parents agree about the program and it has at least been discussed prior to actually implementing the strategy. In cases where parents cannot reach agreement about what to do, suggest a further discussion with the clinician as a way of resolving the impasse or investigate the marital problem further.

8. Follow-up should be arranged within the first week of commencing a program, to identify any problems the parent may be experiencing in carrying out the program. If the program is successful, provide positive feedback and encouragement for the parent to continue with the program. Give some advice on how the child can be weened off the program after a defined period.

9. If no positive results are being achieved after several weeks, refer the child and family for further assessment and treatment to a mental health specialist.

Managing more complex cases

At present, the scientific evidence does not provide clear guidelines about what types of families respond best to individual, group, or self directed interventions. It is tempting to conclude that the presence of co-morbid adult adjustment problems (such as marital conflict, parental depression or lack of social support) will indicate a need for an adjunctive intervention specifically targeting these concerns. However, the evidence from controlled trials examining the impact of adjunctive interventions has not consistently shown better outcomes for children when this is done. Hence, it is probably better to not rely on pre-intervention measures of family risk factors alone to determine what level of family intervention is required. A more parsimonious approach involves offering a parent a standard skills based parenting program such as the programs developed by Forehand and McMahon, Webster-Stratton or Sanders, and to monitor other family risk factors during this initial phase of intervention. Adjunctive treatments should only be introduced if the problem behaviour persists, the risk factors remain unchanged during the parenting intervention or the parent is specifically requesting additional assistance.

When children's behaviour problems are complicated by significant marital distress, parental psychopathology, particularly depression and alcoholism, or parental antisocial behaviour, there is a reduced likelihood of success in using simple parenting intervention techniques described above. Similarly, if there is a high level of parental distress or the parent has a history of abusing the child, child focused interventions need to be supplemented by other adult focused interventions. These interventions can include providing marital communication skills training to teach couples to support each other's parenting efforts (Dadds, Schwartz & Sanders, 1987), cognitive therapy techniques to treat depression (Sanders & McFarland, in press), or in case of suspected child abuse and neglect, notification to a child protection agency.

Principles of effective consultation

The management of conduct problem children is likely to be enhanced if the following broad principles of intervention are adhered to.

Empower families and children: Effective interventions enhance individual competency and the family's ability as a whole to solve problems for themselves. In most (but not all) instances, families will have a lesser need for support over time. Family interventions that promote dependency are destructive.

Build on existing strengths: Successful interventions build on existing competencies of family members. It is assumed that individuals are capable of becoming active problem solvers, even though their previous attempts to resolve problems may not have been successful. This may be due to lack of necessary knowledge, skills or motivation.

The therapeutic relationship is an important part of effective intervention: Regardless of theoretical orientation, most family intervention experts agree that the therapeutic relationship between the clinician and relevant family members is critical to a successful long-term outcome (Patterson & Chamberlain, 1994; Sanders & Lawton, 1993). Clinical skills such as rapport building, effective interviewing and communication skills, session structuring, and the development of empathic, caring relationships with family members are important to all forms of family intervention. Such skills are particularly important in face to face programs, but are also important in models of counselling that involve brief or minimal contact, including telephone counselling or correspondence programs. Consequently, mental health professionals undertaking family intervention work need advanced level training and supervision in both the science and the clinical practice of family intervention.

Address known risk variables: Family interventions vary according to the focus or goals of the intervention. Interventions that have proven most successful address variables that are known to increase the risk of individual psychopathology. Some interventions focus heavily on behavioural change (e.g., Forehand & McMahon, 1981), whereas others concentrate on cognitive, affective, and attitude change as well (e.g., Webster-Stratton, 1994; Sanders & Dadds, 1993). The focus of the intervention depends greatly on the theoretical underpinnings and assumptions of the approach. However, a common goal in most effective forms of family intervention is to improve family communication, problems solving, conflict resolution, or parenting skills.

Designed to facilitate access: It is essential that interventions are delivered in ways that increase, rather than restrict, access to services. Professional practices can sometimes restrict access to services. For example, inflexible clinic hours during

9am to 5pm may be a barrier to working parents' participation in family intervention programs. Family intervention consultations may take place in many different settings, such as in clinics or hospitals, family homes, kindergartens, preschools, schools and worksites. The type of setting selected should vary depending on the goals of the intervention and the needs of the target group. Practitioners must become more flexible to better tailor services.

Developmentally timed to optimise impact: The developmental timing of the intervention refers to the age and developmental level of the target group. Family intervention methods have been used across the life span including pre-birth, infancy, toddlerhood, middle childhood, adolescence, early adulthood, middle adulthood, and late adulthood. Developmentally targeted family interventions for particular problems may have a greater impact than if delivered at another time in the life cycle. For example, premarital counselling may be more effective in reducing subsequent relationship breakdown than a marriage enrichment program delivered after marital distress has already developed.

Family interventions can complement and enhance other interventions: Family intervention can be an effective intervention in its own right as a treatment for conduct problems, particularly with preschool age children. However, when other interventions are warranted, particularly where there is significant co-morbidity with ADHD, depression, and learning difficulties, family intervention can be successfully combined with other interventions such as drug therapy, individual therapy, social and community survival skills training, classroom management and academic instruction. Family intervention can complement other interventions for individuals by increasing compliance with medication and by ensuring the cooperation and support of family members. Family intervention should be an integral component of comprehensive mental health services for all disorders.

Gender sensitive: Therapeutic interventions have the potential to promote more equitable gender relationships within the family. Intervention programs may directly or indirectly promote inequitable relationships between marital partners by inadvertently promoting traditional gender stereotypes and power relationships that increase dependency and restrict the choices of women. Consequently, family intervention programs should promote gender equality.

Evidence-based interventions: All interventions should be based on coherent and explicit theoretical principles that allow key assumptions to be tested. This extends beyond demonstrating that an intervention works, although that may be an important first step. It involves showing that the mechanisms purported to underlie improvement (e.g. specific family interaction processes) actually change and are responsible for the observed improvement, rather than other non-specific factors.

Culturally appropriate: Effective intervention programs must be tailored in such a way as to respect and not undermine the cultural values, aspirations, traditions and needs of different ethnic groups. There is much to learn about how to achieve this objective. However, there is increasing evidence from other countries that sensitively tailored family interventions can be effective with minority cultures (Myers et al., 1992). In the Australian context, the specific needs of Aboriginal and Torres Strait Islander families require greater recognition. As a critical first step, research initiatives examining the factors (social, structural and cultural) contributing to psychosocial problems in the families of indigeneous people, need to be implemented. Lack of reliable data on the nature and prevalance of mental health problems in the Aboriginal community is a major obstacle to the development of targeted mental health programs (Tippet, Elvy, Hardy & Raphael, 1993).

Appendix 4

Triple P-Positive Parenting Program

Sanders and colleagues have developed a unique multi-level parenting and family support initiative known as the Triple P-Positive Parenting Program (outlined in Table 3-1). Whereas the previous two programs discussed were designed as either individual or group programs, Triple P has five levels of intervention on a tiered continuum of increasing strength for parents of preadolescent children from birth to age 12 (Sanders & Markie-Dadds, 1992; Sanders & McFarland, in press; Sanders, Markie-Dadds, Tully, & Bor, in press).

Level 1, a universal parent information strategy, provides all interested parents with access to useful information about parenting through a coordinated media and promotional campaign using print and electronic media, as well as user friendly parenting tip sheets and videotapes which demonstrate specific parenting strategies. This level of intervention aims to increase community awareness of parenting resources, receptivity of parents to participating in programs, and to create a sense of optimism by depicting solutions to common behavioural and developmental concerns. ***Level 2*** is a brief, one to two session primary health care intervention, providing early anticipatory developmental guidance to parents of children with mild behaviour difficulties. ***Level 3***, a four session intervention, targets children with mild to moderate behaviour difficulties and includes active skills training for parents. ***Level 4*** is an intensive 8 to 10 session individual or group parent training program for children with more severe behavioural difficulties. ***Level 5*** is an enhanced behavioural family intervention program for families where parenting difficulties are complicated by other sources of family distress (e.g. marital conflict, parental depression, or high levels of stress).

The program targets four different developmental periods from infancy to preadolescence. Within each developmental period the reach of the intervention can vary from being very broad (targeting an entire population) or quite narrow (targeting only high-risk children). This flexibility enables practitioners to determine the scope of the intervention given their own service priorities and funding.

Table 3-1. The Triple P model of parenting and family support

Level of intervention	Target population	Intervention methods	Program resources	Possible target areas
1. *Universal Triple P* Media-based parenting information campaign	All parents interested in information about parenting and promoting their child's development.	A coordinated information campaign using print and electronic media and other health promotion strategies to promote awareness of parenting issues and normalise participation in parenting programs such as Triple P. May include some contact with professional staff (e.g. telephone information line).	■ *Guide to Triple P* ■ Media and promotions kit (including promotional poster, flyer, brochure, radio announcements, newspaper columns)	■ General parenting issues ■ Common every day behavioural and developmental issues
2. *Selected Triple P* Information and advice for a specific parenting concern	Parents with specific concerns about their child's behaviour or development.	Provision of specific advice on how to solve common child developmental issues and minor child behaviour problems. May involve face-to-face or telephone contact with a practitioner (about 20 minutes over two sessions) or 60-90 minute seminars.	■ *Guide to Triple P* ■ Positive Parenting booklet ■ *Triple P Tip Sheet Series* ■ *Every Parent Video Series* ■ Developmental wall chart	■ Common behaviour difficulties or developmental transitions, such as toilet training and bedtime problems
3. *Primary Care Triple P* Narrow focus parenting skills training	Parents with specific concerns about their child's behaviour or development who require consultations or active skills training.	A brief program (about 80 minutes over four sessions) combining advice with rehearsal and self-evaluation as required to teach parents to manage a discrete child problem behaviour. May involve face-to-face or telephone contact with a practitioner.	■ Level 2 materials ■ *Practitioner's Manual for Primary Care Triple P* ■ Consultation flip chart	■ Discrete child behaviour problems, such as tantrums, whining and fighting with siblings
4. *Standard Triple P* *Group Triple P* *Self-Directed Triple P* Broad focus parenting skills training	Parents wanting intensive training in positive parenting skills. Typically targets parents of children with more severe behaviour problems.	A broad focus program (up to 12 one hour sessions) for parents requiring intensive training in positive parenting skills and generalisation enhancement strategies. Application of parenting skills to a broad range of target behaviours, settings and children. Program variants include individual, group or self-directed (with or without telephone assistance) options.	■ Level 2 and 3 materials ■ *Every Parent* ■ *Practitioner's Manual for Standard Triple P and Every Parent's Family Workbook* ■ *Facilitator's Manual for Group Triple P and Every Parent's Group Workbook* ■ *Every Parent's Self-Help Workbook*	■ Multiple child behaviour problems ■ Aggressive behaviour ■ Oppositional Defiant Disorder ■ Conduct Disorder ■ Learning difficulties
5. *Enhanced Triple P* Behavioural family intervention	Parents of children with concurrent child behaviour problems and family dysfunction.	An intensive individually tailored program (up to 11 one hour sessions) for families with child behaviour problems and family dysfunction. Program modules include home visits to enhance parenting skills, mood management strategies and stress coping skills, and partner support skills.	■ Level 2 to 4 materials ■ *Practitioner's Manual for Enhanced Triple P and Every Parent's Supplementary Workbook*	■ Concurrent child behaviour problems and parent problems (e.g. relationship conflict, depression, stress)

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Specifically the program aims to: 1) enhance the knowledge, skills, confidence, self sufficiency and resourcefulness of parents of preadolescent children; 2) promote nurturing, safe, engaging, non-violent, and low conflict environments for children; 3) promote children's social, emotional, language, intellectual, and behavioural competencies through positive parenting practices.

The program content draws on a public health perspective to family intervention and involves the explicit recognition of the role of the broader ecological context for human development (e.g., Biglan, 1995; Mrazek & Haggerty, 1994). As pointed out by Biglan (1995) the reduction of antisocial behaviour in children requires the community context for parenting to change. Triple P's media and promotional strategy as part of a larger system of intervention aims to change this broader ecological context of parenting. It does this by normalising parenting experiences (particularly the process of participating in parent education), by breaking down parents' sense of social isolation, increasing social and emotional support from others in the community, and validating and acknowledging publicly the importance and difficulties of parenting. It also involves actively seeking community involvement and support in the program by the engagement of key community stakeholders (e.g. community leaders, businesses, schools and voluntary organisations).

The model emphasises the development of a parent's capacity for self-regulation as a central skill in overcoming a child's behaviour problem. This involves teaching parents skills that enable them to become independent problem solvers. Karoly (1993) defined self regulation as follows: "Self-regulation refers to those processes, internal and or transactional, that enable an individual to guide his/her goal directed activities over time and across changing circumstances (contexts). Regulation implies modulation of thought, affect, behaviour, and attention via deliberate or automated use of specific mechanisms and supportive metaskills. The processes of self-regulation are initiated when routinised activity is impeded or when goal directedness is otherwise made salient (e.g. the appearance of a challenge, the failure of habitual patterns; etc)..." (p25). This definition emphasises that self-regulatory processes are embedded in a social context that not only provides opportunities and limitations for individual self directedness, but implies a dynamic reciprocal interchange between the internal and external determinants of human motivation. From a therapeutic perspective, self-regulation is a process whereby individuals are taught skills to modify their own behaviour. These skills include how to select developmentally appropriate goals, monitor a child's or the parent's own behaviour, choose an appropriate method of intervention for a particular problem, implement the solution, self monitor their implementation of solutions via checklists relating to the areas of concern, identify strengths or limitations in their performance and set future goals for action.

This self-regulatory framework has been operationalised by Sanders et al. (1999) to include:

Self-sufficiency: As a parenting program is time limited, parents need to become independent problem solvers so they trust their own judgment and become less reliant on others in carrying out basic parenting responsibilities. Self sufficient parents have the resilience, resourcefulness, knowledge and skills to parent with confidence.

Parental self-efficacy: This refers to a parent's belief that they can overcome or solve a parenting or child management problem. Parents with high self efficacy have more positive expectations about the possibility of change.

Self-management: The tools or skills that parents use to become more self-sufficient, include self-monitoring, self-determination of performance goals and standards, self-evaluation against some performance criterion, and self-selection of change strategies. As each parent is responsible for the way they choose to raise their children, parents select which aspects of their own and their child's behaviour they wish to work on, set goals for themselves and choose specific parenting and child management techniques they wish to implement. They self evaluate their success with their chosen goals against self determined criteria. Triple P aims to help parents make informed decisions by sharing knowledge and skills derived from contemporary research into effective child rearing practices. An active skills training process is incorporated into Triple P to enable skills to be modeled and practiced. Parents receive feedback regarding their implementation of skills learned in a supportive context, using a self-regulatory framework (see Sanders & Dadds, 1993).

Personal agency: Here the parent increasingly attributes changes or improvements in their situation to their own or their child's efforts rather than to chance, age, maturational factors or other uncontrollable events (e.g. spouses' bad parenting or genes). This outcome is achieved by prompting parents to identify causes or explanations for their child's or their own behaviour.

Five core positive parenting principles form the basis of the program. These principles address specific risk and protective factors known to predict positive developmental and mental health outcomes in children.

1. ***Ensuring a safe and engaging environment:*** Children of all ages need a safe, supervised and therefore protective environment that provides opportunities for them to explore, experiment and play. This principle is essential to promote healthy development and to prevent accidents and injuries in the home (Wesch & Lutzker, 1991). It is also relevant to older children and adolescents who need

adequate supervision and monitoring in an appropriate developmental context (Forehand, Miller, Dutra & Watts Chance, 1997). Triple P draws on the work of Risley and his colleagues who have articulated how the design of living environments can promote engagement and skill development of dependent persons from infancy to the elderly (Risley, Clark & Cataldo, 1978).

2. ***Creating a positive learning environment:*** This involves educating parents in their role as their child's first teacher. The program specifically targets how parents can respond positively and constructively to child-initiated interactions (e.g. requests for help, information, advice and attention) through incidental teaching to assist children learn to solve problems for themselves. Incidental teaching involves parents being receptive to child-initiated interactions when children attempt to communicate with their parents. The procedure has been used extensively in the teaching of language, social skills, and social problem solving (e.g. Hart & Risley, 1975, 1995). A related technique known as 'Ask, Say, Do' involves teaching parents to break down complex skills into discrete steps and to teach children the skill sequentially (in a forward fashion) through the use of graded series of prompts from the least to the most intrusive.

3. ***Using assertive discipline:*** Specific child management strategies are taught that are alternatives to coercive and ineffective discipline practices (such as shouting, threatening or using physical punishment). A range of behaviour change procedures that are alternatives to coercive discipline are demonstrated to parents including: selecting ground rules for specific situations; discussing rules with children; giving clear, calm, age appropriate instructions and requests; logical consequences; quiet time (non-exclusionary time out); time out; and planned ignoring. Parents are taught to use these skills in the home as well as in community settings (e.g. getting ready to go out, having visitors, and going shopping) to promote the generalisation of parenting skills to diverse parenting situations (see Sanders & Dadds, 1993 for more detail).

4. ***Having realistic expectations:*** This involves exploring with parents their expectations, assumptions and beliefs about the causes of children's behaviour and choosing goals that are both developmentally appropriate for the child and realistic for the parent. There is evidence that parents who are at risk of abusing their children are more likely to have unrealistic expectations of children's capabilities (Azar & Rohrbeck, 1986). Developmentally appropriate expectations are taught in the context of parent's specific expectations concerning difficult and prosocial behaviours rather than through the more traditional age and stages approach to teaching about child development.

5. ***Taking care of oneself as a parent:*** Parenting is affected by a range of factors that impact on a parent's self esteem and sense of well being. All levels of Triple P specifically address this issue by encouraging parents to view parenting as part of a larger context of personal self-care, resourcefulness and well being and by teaching parents practical parenting skills that both parents are able to implement. In more intensive levels of intervention (Level 5) couples are also taught effective marital communication skills and are encouraged to explore how their own emotional state affects their parenting and consequently their child's behaviour. Parents develop specific coping strategies for managing difficult emotions including depression, anger, anxiety and high levels of parenting stress at high risk times for stress.

There are several features of Triple P as a family intervention, which are discussed below.

Principle of program sufficiency: This concept refers to the notion that parents differ in the strength of intervention they may require to enable them to independently manage a problem. Triple P aims to provide the minimally sufficient level of support that parents require. For example, parents seeking advice on a specific topic (e.g. tantrums) receive clear high quality, behaviourally specific advice in the form of a parenting tip sheet on how to manage or prevent a specific problem. For such a parent, levels 1 or 2 of Triple P would constitute a sufficient intervention.

Flexible tailoring to identified risk and protective factors: The program enables parents to receive parenting support in the most cost-effective way possible. Within this context a number of different programs of varying intensity have been developed. For example, level 5 provides intervention for additional family risk factors, such as marital conflict, mood disturbance and high levels of stress.

Varied delivery modalities: Several of the levels of intervention in Triple P can be delivered in a variety of formats, including individual face-to-face, group, telephone-assisted or self-directed programs, or a combination. This flexibility enables parents to participate in ways that suit their individual circumstances and allows participation from families in rural and remote areas who typically have less access to professional services.

Wide potential reach: Triple P is designed to be implemented as an entire integrated system at a population level. However, the multi-level nature of the program enables various combinations of the intervention levels and modalities within levels to be used flexibly as either universal, indicated, or selective prevention strategies depending on local priorities, staffing and budget constraints. Some communities using Triple P will use the entire multilevel system, while others may focus on getting the Level 4 group program implemented at a population level, while seeking funding support for the other levels of intervention.

A multi-disciplinary approach: Many different professional groups provide counsel and advice to parents. Triple P was developed as a professional resource that can be used by a range of helping professionals. These professionals include community nurses, family doctors, paediatricians, teachers, social workers, psychologists, psychiatrists and police officers, to name a few. At a community level, rigid professional boundaries are discouraged and an emphasis put on providing training and support to a variety of professionals to become more effective in their parent consultation skills.

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